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ABSTRACT

The 10 short presentations contained in this document were given by representatives of vocational training research and development organizations from 9 of 10 member states of the Eurpoean community and concern the current and future research and development priorities of these organizations. An introduction discusses objectives and highlights the papers and discussions. The papers are "The Federal Institute for Vocational Training and Its Tasks--Federal Republic of Germany," "The Centre for Studies and Research on Qualifications--France," "Introduction to ISFOL and Its Activities--Italy," "Government Sponsored Research into Vocational Training in the United Kingdom," "AnCO's Planning, Research, and Development Strategies--Ireland," "Vocational Training of Adults by the Office National de l'Emploi--Belgium," "The National Manpower Service--RVA--Belgium," "Introduction to PCBB and Its Activities--The Netherlands," "Research Project 'Teaching and Learning'--Utrecht University--The Netherlands," and "Proposals for International Co-operation of Training Research Institutions for Observation of Changes in Qualifications Resulting from Introduction of Information Technologies--BIBB--Germany." A chronological list is also provided of CEDEFOP (European Centre for the Development of Vocational Training) activities in relation to new information technologies and vocational training. (YLB)

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CEDEFOP Document

Promotion of cooperation amongst research and development organizations in the field of vocational training

Working meeting papers 20/21 May 1985

European Centre for the Development of Vocational Training

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Promotion of cooperation amongst research and development organizations in the field of vocational training

Working meeting papers — 20/21 May 1985

CEDEFOP

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LIST OF CONTENTS

	PAGE
INTRODUCTION	1
THE FEDERAL INSTITUTE FOR VOCATIONAL TRAINING AND ITS TASKS - FEDERAL REPUBLIC OF GERMANY	6
THE CENTRE FOR STUDIES AND RESEARCH ON QUALIFICATIONS - FRANCE	16
INTRODUCTION TO ISFOL AND ITS ACTIVITIES - ITALY	31
GOVERNMENT SPONSORED RESEARCH INTO VOCATIONAL TRAINING IN THE UNITED KINGDOM	40
AnCO's PLANNING, RESEARCH AND DEVELOPMENT STRATEGIES - IRELAND	53
VOCATIONAL TRAINING OF ADULTS BY THE OFFICE NATIONAL DE L'EMPLOI - BELGIUM	63
THE NATIONAL MANPOWER SERVICE - RVA , BELGIUM	70
INTRODUCTION TO PCBB AND ITS ACTIVITIES - THE NETHERLANDS	86
RESEARCH PROJECT"TEACHING AND LEARNING" - UTRECHT UNIVERSITY - THE NETHERLANDS	90
PROPOSALS FOR INTERNATIONAL CO-OPERATION OF TRAINING RESEARCH INSTITUTIONS FOR OBSERVATION OF CHANGES IN QUALIFICATIONS RESULTING FROM INTRODUCTION OF INFORMATION TECHNOLOGIES - BIBB - GERMANY	99
CEDEFOP ACTIVITIES IN RELATION TO NEW INFORMATION TECHNOLOGY AND VOCATIONAL TRAINING	102
LIST OF PARTICIPANTS	108

1. INTRODUCTION

A meeting of training research and development organizations from nine of the ten Member States of the European Community took place at CEDEFOP on 20 and 21 May, 1985.

Those taking part in the meeting were directors and senior research staff from the various countries concerned, with participants coming from government departments, state-sponsored national training research and development organizations and private research institutes working on government sponsored research and development projects on vocational training [1].

2. Objectives of the meeting

The objectives of the meeting were to enable the various organizations present to give short presentations on their current and future research and development priorities, and to exchange information and experience on projects of mutual concern.

In his introductory remarks Dr. E. Piehl, Director of CEDEFOP, emphasized the complementary nature of this meeting with those of the meetings of Directors-General of National Training Organizations organized by Directorate General V of the Commission. The meeting, he said, was concerned with technical and practical matters which had many elements in common across the various national borders.

Dr. Piehl said that although there would be a wide-ranging discussion in the initial stages, covering the main topics of work in the various research and development organizations, the main theme of the meeting would be on the need to examine the changes in skill and qualifications requirements in response to the introduction of new information technologies, both in industry and in the commercial sector. This was in line with the Commission's concern to set up a permanent system of observation on qualification changes in response to new technologies.

The other main aim of the meeting was to discuss future research priorities, with particular reference to new technology, and to find ways in which the various organizations might co-operate in order to avoid duplication of effort and to learn from each other's experience.

Particular mention was also made of the developments in the work on the correspondence of training levels which had been carried out by CEDEFOP, in co-operation with the Commission, for a possible decision by the Council of Ministers. After this possible decision, future research work on the correspondence of training levels in further groups of related professions or qualifications is needed.

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1) See attached list of participants, addresses and telephone numbers

3. Some current research work at national level

Current interest in research and development programmes covers a very wide range of subjects in all Member States but all the programmes include, as a matter of priority, work on changing qualification profiles needed to work effectively with new technologies. This covers initial training programmes and re-training programmes for adults, in which some considerable difficulties are being experienced.

Other common themes are as follows:

- transition from school to employment
- evaluation of training programmes
- training of trainers
- adult training and re-training
- development of training media and the use of new technologies in vocational training
- evaluation of pedagogical techniques

Other projects covered surveys of training needs in various sectors of the economy, teaching and learning processes, and the role of the social partners in the development of vocational training policy.

Techniques for the selection of trainees and surveys of trainees' attitudes to vocational training programmes as well as labour market surveys, carried out either directly or indirectly for the organization concerned also featured in the discussion.

Much of the work on qualifications for new technologies consists of looking at the question of combination of skills - sometimes known as hybrid skills - and making descriptions of future oriented trade and skill profiles.

Some of the organizations were also paying attention to the special needs of adult workers who experience difficulty in learning during re-training programmes to handle new technology.

4. Future research and development priorities

Amongst the future priorities for research and development work, according to the various organizations, the following themes were included:

- continuation of work on skill change requirements in relation to new technologies
- training standards
- selection criteria for initial training
- reform of continuing or further vocational training
- development of learning techniques
- development of open learning systems
- the training of trainers
- the use of new technology in the training process
- the introduction of new information technology teaching into traditional training programmes

5. Notes on the discussions

A great deal of this selection of research and development work is also reflected in CEDEFOP's Work Programme, presented by Mr. Politi, underlining the concern of the Member States and the Commission with such problems as youth employment, training of trainers and the challenge of the new technologies.

Although the national situation varies to some extent, there was sufficient common ground and effort to make it worthwhile to consider how duplication of work and unnecessary cost could be avoided.

Whilst a great deal of research is being carried out in the various Member States, there was a general concern at the lack of clear coordinated policies and operations in the field of vocational training research in most of the Member States.

Participants at the meeting, however, expressed their interest for closer co-operation on research topics of mutual interest, and their readiness to co-operate with each other and with CEDEFOP in well-defined projects relating to skill change requirements for new technologies.

The discussions on research and development priorities being identified in the various Member States followed some of the 8 priority points listed in the Commission's proposals for "Vocational Training and New Information Technologies - Work Programme 1985-1988" presented on 18 April, 1985 as a practical follow-up to the two most important Resolutions by the Council of Ministers concerning the future of vocational training in the European Community. 1)

These themes are as follows:

1. New vocations and economic sectors
2. Regional and local management of human resources in the framework of a forward-oriented employment policy
3. The contribution of companies or groups of companies to training programmes in the work place
4. The development of individual training courses and distance learning
5. The development of module training systems

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1) - Council Resolution of 11 July, 1983 concerning "Vocational training policies in the European Community in the 1980s";
- Council Resolution of 2 June, 1983 concerning "Vocational training measures relating to the new information technologies"

6. The evaluation and certification of training and trade qualifications
7. Training of management, employees and their representatives, who are involved in the introduction of new technology in the company
8. The training of trainers

Acting on a specific proposal from the German Federal Institute for Vocational Training regarding international co-operation on training research, it was generally recommended that the most urgent priority was to develop an outline framework for the observation of changes in manufacturing and commercial sectors relating to the introduction of new technologies, and what these changes mean for the future development of qualification and skill profiles.

Small working party meetings of training research staff could be organized to discuss ways and means of setting up the permanent observation function for changes in enterprises and what these changes mean for training and qualification profiles with regard to new technologies.

It was proposed to start with metal-working - manufacturing industries - as first priority, together with changes in office employment. It should be the task of the small working parties to develop a basic framework for the observation exercises, and to agree a common terminology in order to facilitate this work.

6. Conclusions

All participants welcomed the opportunity for a wide-ranging, informal discussion on research and development activities in general, and work on new information technologies in particular. All also expressed willingness to take part in increased co-operation amongst Community Member States' training research and development organizations.

Participants also expressed interest in a possible exchange of research staff, to be arranged on a bi-lateral basis, such exchanges could be promoted by the multi-lateral "platform" offered by CEDEFOP.

In the discussion, it was confirmed that the general trend regarding skills and qualifications required to work with new technologies was an upward trend and that, although new technologies could lead to job losses in the short-term, they almost invariably raise a demand for new employment and higher level skills. The trend of demand for higher level skills places an extra burden on the existing education and training services and the participants considered answers to new technology skill requirements under two headings:

a) short-term response
b) long-term response

So far as the short-term response is concerned, this was seen very largely as a matter of updating and re-training the existing labour force, which is causing problems for many companies

and

the longer-term response which was seen as being firmly anchored in the education and initial training system. Some of the participants considered that the only effective long-term answer to preparing people to work with new technology lay with the basic education system. Mention was also made of the considerable investment in general education and in life-long education and training made by the Japanese, by way of comparison with what happens in most European countries.

Looking to the longer-term requirements of the new technologies, mention was also made of the increasing need for highly skilled engineers and technicians to handle the new technologies,and to the value of the rapid development of closer links between universities, technical colleges and industry which has been a strong feature of the American experience for many years.

The participants were pleased to learn that the Direction of CEDEFOP had in the draft of the "Perspective 1986-1988" proposed that the promotion of co-operation amongst research and development organizations in the field of vocational training should become a permanent activity.

As soon as the guidelines for 1986-1988 have been agreed by the Management Board in September, 1985, CEDEFOP will request the continuation of this successful first working group meeting in the individual annual Work Programmes.

From this basis, in addition to the coordination which takes place in connection with priority projects, there could develop a permanent platform for the exchange of research findings. Furthermore, efforts should be made with a view to securing a joint scientific backup and/or evaluation for some of the "innovative measures", e.g. those concerning the new technologies and vocational training; coordination of these efforts by CEDEFOP in consultation with the competent services of the Commission and national bodies would enable the Centre to assert the value of its statutory function as the only European "Centre" for initial and continuing training development.

National Contributions

The contributions received from the various research and development organizations are now given in full and any further information required by the reader may be obtained from the organization concerned, the address and telephone numbers of which can be found in the annex.

W.G. McDERMENT
CEDEFOP PROJECT CO-ORDINATOR

NATIONAL TRAINING RESEARCH AND DEVELOPMENT ORGANIZATIONS

WORKING

MEETING

20-21 MAY 1985

THE FEDERAL INSTITUTE FOR VOCATIONAL TRAINING AND ITS TASKS

FEDERAL REPUBLIC OF GERMANY

11

C E D E F O P
BERLIN

1. The Federal Institute for Vocational Training

The Federal Institute for Vocational Training is a state research establishment concerned with non-school-based vocational training and the planning of training provision. The Institute was established under the Vocational Training Act of 1969. The tasks of the Federal Institute are laid down in the Vocational Training Promotion Act. It conducts a whole range of research projects and through development, promotion and counselling activities, plays an active role in the further development of non-school-based vocational training. The various bodies concerned with vocational training are actively involved in the work of the Institute: the employers' organizations, the trade unions, the Federal Government and the governments of the Länder.

The Federal Institute has two official bodies: the Central Committee and the Secretary-General.

The Central Committee advises the Federal Government on basic questions of vocational education. The Central Committee as a self-governing body, has the essential task of deciding on matters relating to the statute, budget and research programme of the Institute.

The second official body of the Federal Institute is the Secretary-General, who represents the Federal Institute externally and is responsible for the execution of its tasks. These tasks are carried out by six divisions.

The prime objective of the work of the Federal Institute is the improvement of vocational training in practice. This corresponds to the relevant legal regulations and the provisions of its statute and is determined by the significance of vocational training in respect of the life opportunities of the individual and the development of the social, technical and economic spheres. Vocational training is designed to qualify the individual for a profession and to maintain and develop vocational qualifications. In view of the significance of work and vocational qualifications for all other aspects of life, vocational training also has the task of transmitting qualifications which enable the individual to exercise his rights and obligations as a citizen and member of the working population.

A central feature of the work of the Institute is the involvement of vocational training practitioners. Experts from private enterprise and public administrations, professional associations, leading employers' and employees' organizations and other competent bodies (Chambers of Commerce, Crafts Chambers, etc.) are involved in the various tasks. The competent bodies at both Federal and

Länder levels responsible for the regulation of vocational training are also actively involved. The results of the work of the Federal Institute find their way into vocational training policies, vocational training planning and practice in many different ways. According to the provisions of the Vocational Training Promotion Act (Article 6), the Federal Institute for Vocational Training has the following tasks:

- to conduct vocational training research in accordance with the research programme,
- to promote pilot experiments in vocational training practice within the firms,
- to promote educational technology through research and to develop distance learning,
- to advise the Federal Government on vocational training issues,
- in accordance with the instructions of the Federal Government, to cooperate
  - . in the drafting of training regulations and other statutory ordinances
  - . in the drafting of the vocational training report
  - . in the preparation of vocational training statistics.

Finally, in accordance with general administrative provision issued by the competent Federal Minister, it is required to give support to the planning, establishment and further development of group vocational training centres and to publish the register of recognized skilled occupations.

In promoting pilot projects and group vocational training centres, the Federal Institute administers budgetary resources of the Federal Minister for Education and Science.

2. What are the objectives of the Federal Institute in the pursuance of its tasks?

The Federal Institute for Vocational Training promotes vocational training through research and through its active participation in preparing and supporting the implementation of vocational training tasks assigned to the Federal Government. In particular, vocational training research is required to make a scientific contribution to the effect that:

- existing circumstances and vocational training needs are observed, analysed and evaluated,
- the bases for vocational training are clarified and
- the contents and objectives of vocational training are identified and adapted to the technical, economic and social development.

3. Description of activities

At a practical level, the Federal Institute has organized its various technical activities according to subject areas.

Area 1 - Qualification structures and training provision

The Federal Institute has conducted extensive research concerning the development of qualification structures and the provision and application of occupational qualifications. When analysing occupational developments, the problem of methods is discussed and the qualification structure of the employees and the application of acquired qualifications described. When studying qualification processes, the influence of typical characteristics of training on-the-job with regard to the learning of an occupation are examined.

The study of qualification processes is directed towards the identifcation of socialization processes at the place of work and an examination of the conditions and opportunities for intensifying learning on the job.

The question of the conditions and opportunities for the application of knowledge of skills and abilities acquired during training will be the subject of intensive study within a number of research projects in the years 1984, 1985 and 1986.

In 1985 attention will be focussed on key qualifications for occupations in selected areas.

Area 2 - Technical and organizational change

Research in this area serves to monitor trends and developments in the employment system resulting from technical/organizational change which are of significance for vocational training, and, against this background, to contribute to the further development of vocational training both with regard to content, methodology and structures.

So far, the Federal Institute has concentrated on an analysis of the effects of technical/organizational change with regard to qualification needs and their effect on vocational training. Accordingly, information has been collected and evaluated in respect of the consequences of the introduction of technical/organizational innovations in the commercial and administrative sectors and their consequences for qualifications acquired through in-company training.

For the purpose of establishing a basis for further training ordinances in the commercial sector, an analysis has been made of the influence of information technologies on clerical functions and lower management functions in the commercial/administrative field and in particular on the functions of graduates in business administration.

In 1980, the Federal Institute began developing training media for the metal-working and electrotechnical sectors which will contribute to the provision of qualifications which in the train of technical/organizational change may find long-term application. In the field of continuing training, it is intended to establish a basis for the development of proposals for continuing vocational training in selected areas in which the new technologies are applied. In addition, work has begun on the development of a distance learning course for continuing training in CNC technology.

As from 1984, the Federal Institute has been looking after the pilot project programme of the Federal Minister for Education and Science, in which the effect of new micro-electronic technologies on vocational training are being investigated and conclusions drawn with regard to the consequences for initial and continuing training.

Progress with the introduction of automatic manufacturing systems employing micro-processing technology requires that greater use be made of simulation models in the training sector. Since 1984, the Federal Institute has been developing software for the employment of CNC simulators in the metal-working sector.

Area 3 - Development and regulation of vocational training courses

The main task in this field is the adjustment of vocational training courses to meet the technical, economic and social developments.

At present, metal-working and electrotechnology occupy a central position in the regulatory activities. In both areas, initial vocational training is being totally re-structured. The re-drafting of training ordinances is scheduled for completion in 1986.

The work of the Federal Institute in the field of continuing training has so far centred on the drafting of regulations for the training of industrial master craftsmen and continuing training ordinances and examination syllabuses in the commercial sector.

In 1985, it is planned to complete,as far as possible, work on the re-structuring of training in the sectors printing, chemicals, foodstuffs, retail, leather manufacturing, warehousing and transport.

Area 4 - Development of training media

The tasks assigned to the Federal Institute under the Vocational Training Promotion Act include the promotion of training technologies through research. Accordingly, it is necessary through appropriate research to process the content of vocational training from a didactical point of view, i.e to develop media which can be employed directly for practical vocational training. The training media developed by the Federal Institute in close cooperation with vocational training practitioners are designed to improve and facilitate the transfer of general and sector-specific initial and continuing training subject material.

In the last few years, work has been concentrated on electro-technology and metal-working. In addition, training media have been developed for the occupational fields woodworking, construction, textiles and clothing, chemicals, physics, biology, painting and interior design. For the retail trade, an initial set of media have been developed which, apart from providing technical knowledge and skills, also make provision for social qualifications related to dealings with customers. For a number of years, the Federal Institute has been operating an enquiry and information system concerning training/teaching media in the field of vocational education ("mediabank").

A new feature is an approach towards the solution of the question as to how video-films may be employed in vocational training for the teaching of work techniques. In the woodworking sector, work is continuing on the development of training media for recognized occupations with a limited number of trainees. Work on the development of media for service occupations is to be intensified.

Area 5 - Organization of vocational training

So far the work of the Federal Institute in this area has been specifically devoted to answering the question of the consolidation of training content and objectives in conjunction with an increased utilization of group training centres. Research into the conditions under which training cooperation at company level would appear expedient (joint training systems) is directed towards the provision of transferable decision-making and implementation aids for the organization and coordination of curricula within a group of training companies, in cooperation with group and school training systems.

In addition, work has commenced on the analysis of relationships between various forms of learning, the training conditions within the companies and the acquired qualifications through an evaluation of pilot projects which have been monitored by the Federal Institute. The aim is to develop proposals for the improvement of the organization and methods applied to learning processes.

The possibility of retraining and other qualifying measures for adults in small and medium enterprises is also to be promoted through a description of positive examples.

Area 6 - Initial and continuing training staff

In the last few years a number of pilot projects have been launched with the purpose of qualifying training staff, in particular with the aim of improving the planning of in-company training and the development of training contents and methods.

In the field of continuing training, proposals have been made for the prevention and reduction of learning problems in adult vocational education.

For years,work has been carried out on the improvement of examination regulations and examinations themselves and this is to be complemented by a specific further training programme for examiners. Here attention is centred on the improvement of examination questions for written examinations in the printing industry.

In 1984, the Development Centre for Trainers, "Ausbilderförderungszentrum (AFZ)e.V" in Essen, concluded its promotion work for the development of courses, media and materials for the further

training of in-company trainers. As from 1985, the Federal Institute for Vocational Training will carry out the functions of AFZ.

Area 7 - Vocational training of special groups

The vocational qualification of women is still marked by traditional social roles, a lack of information and a clear concentration on a few "typical" skilled occupations. The research of the Federal Institute has so far been directed essentially to the investigation of factors determining the choice of an occupation and the analysis of the participation of women in further training measures.

According to Article 48 of the Vocational Training Act and Article 42 of the Crafts ordinance, it is possible to train physically and mentally handicapped, and emotionally disturbed young people in occupations other than recognized skilled occupations or without full compliance with the stipulations of the training ordinances. At the Federal Institute, recommendations for standard training courses applicable throughout the Federal Republic have been developed in cooperation with the Handicapped Persons Committee (Article 12 of the Vocational Training Promotion Act), on the basis of existing regulations of the various Chambers which have been applied in practice.

The analysis of the vocational situation of young foreigners, with special consideration being given to the ethnic, social, status-related and school backgrounds, serves as a basis for the statistical data on the planning and implementation of vocational training for young foreigners which, as from 1983, are to be supplied on an annual basis. To an increasing extent, research is being concentrated on the provision of aims for vocational preparation, vocational training and remedial training of young and adult foreigners with special consideration being given to the specific qualification requirements of trainers and counsellors. The results of the research are to serve as a basis for proposals for a greater provision of in-company training places for handicapped young people. In respect of remedial training for those groups who did not acquire full vocational qualifications as a result of their having educational deficits or being socially disadvantaged at a training age, the Federal Institute has, since 1984, conducted a pilot project programme of the Federal Minister for Education and Science.

Area 8 - Training place situation

The monitoring and analysis of the situation regarding training places is an area covered by vocational training planning. The central feature is the procurement of information with the aid of which development tendencies and possible conflicts on the vocational training market can be identified at an early stage.

Activities relating to official vocational training statistics also include work on the statistical indicators for the complete coverage of supply and demand with regard to training places and an improved transparency of the market for training places. Appropriate measures are continuing.

The study of regional development trends in vocational training supply and demand is gaining in importance.

This area also covers the analysis of the behaviour of school-leavers concerning their occupational choice and their educational and in-company training development.

Area 9 - Vocational training centres; cost and financing

The tasks of the Federal Institute in this area cover documentation and analysis of the number, structure and function of non-school-based vocational training venues and the study of educational and training measures conducted at other locations than schools for different user groups, special attention being paid to the costs and the various forms of financing.

Significant work has already been done: the net costs of in-company vocational training have been determined as representative of 45 popular skilled occupations. Factors giving rise to additional costs for the vocational training of handicapped persons have been identified. This work can be followed by cost benefit analyses of measures designed to improve the quality of in-company training and by the establishment of a basis for cost benefit considerations which is as yet unavailable.

As a result of the practical involvement in planning decisions for concrete projects and on the basis of the results of the Institute's own research, it has been possible to develop working and planning aids which have been tested and practised and conform with the scientific standards. In particular, this work covers the following areas:

- general stock-taking and regionalized development planning
- proposals for better utilization of available capacities
- costing of construction and fitting out of premises/follow-up costs
- tasks and functions of the sponsor committees.

From the point of view of cost and quality, an investigation is made of the nature, amount and structure of the costs of selected continuing training measures financed by the enterprises. In cooperation with the Federal Institute of Labour, work is being done on the development and testing of suitable aids for the systematic promotion of the continuing training and retraining activities of the employment offices, consideration being given both to quality and cost-effectiveness.

It is planned to determine the specific costs of non-school-based training venues. These will be interpreted on the basis of the content of the training provided at the various venues.

NATIONAL TRAINING RESEARCH AND DEVELOPMENT ORGANIZATIONS

WORKING
MEETING
20-21 MAY 1985

THE CENTRE FOR STUDIES AND RESEARCH ON QUALIFICATIONS (CEREQ)

FRANCE

21

C E D E F O P
BERLIN

LE CENTRE D'ETUDES ET DE RECHERCHES SUR LES QUALIFICATIONS

I - Tasks and organization

The Centre d'Etudes et de Recherches sur les Qualifications (CEREQ) was established in 1970 (decree No. 70-239 of 19 March 1970) within the Office National d'Information sur les Enseignements et les Professions (ONISEP).

Its tasks are as follows:

1) to carry out studies and research

   - on the qualification of the population and the conditions for acquiring such qualification through initial and continuing training and through a professional activity,

   - on the development of qualifications linked with technological change, work organization and employment,

   - and on vocational and social mobility as a function of training provision and the management of manpower by the enterprises.

2) to formulate opinions and proposals on the basis of the conclusions drawn from previous studies and research work with regard to the choices to be made in the field of training and teaching policies.

   For this purpose, CEREQ has been granted a budget of approx. 33 million FF for 1984. It has a staff of a little under 130 of which approximately 50 are concerned with research, the remainder comprising specialists in informatics, documentalists secretaries, administrative staff, service staff.

The Director of CEREQ is assisted by two Deputies, one for research and publications, the other for external relations (i.e. public administration and representatives of the social partners) and three co-ordinators for the sectors higher education, technological training and employment, international relations.

The Centre has three departments:

- the department for training and careers,
- the department for job qualifications,
- the department for employment and planning.

The Centre's "logistics" are taking care of by three services:

- the informatics service,
- the information and documentation service, which operates a documentation centre,
- the administrative and financial service.

CEREQ has concluded an agreement with the Universities of Aix Marseille II, Grenoble II, Lille I, Nancy II, Orléans, Paris I, Rennes I, Rouen, Strasbourg I and Toulouse I for the establishment of inter-regional centres associated with CEREQ. These centres co-operate in three areas : the observation of development trends (cf. infra), research work in co-ordination with CEREQ and the provision of decision-making aids for public administrations, for the main part those of the regions and the academies.

II - The activities of CEREQ

These are centred on three functions :

- the observation function,
- studies and research,
- applications.

1) The observation functions

CEREQ produces and collects a significant volume of material on the basis of which it conducts its studies and research. For this purpose, it has set up a monitoring system for the observation of development in the field of vocational intergration of young people and information on job content and labour market developments.

a) Observation of entry into working life

This involves a number of surveys carried out with a sample of tens of thousands of young people leaving the education system, at all levels (from leaving at 16 in the course of secondary level one "first cycle" to leaving university "second cycle").

By way of mailed questionnaires, CEREQ has conducted surveys concerning the situation of young people nine months after leaving the secondary education system (either in March 1982 for those entering an establishment in the course of the school year 1980-1981) and 21 months after leaving higher education (taking into account military service).

By taking recourse to interview surveys, CEREQ has also studied career developments amongst young people who had replied to the questionnaires four years before, in order to plot their professional progress.

Accordingly, CEREQ carried out

- an initial series of surveys on youth intergration from 1976 to 1979,and
- a second series of surveys on youth intergration from 1980 to 1983, in order to compare the situation of young people leaving the system at the same level, but after an interval of four years,

- a series of career progress surveys from 1980 to 1983 involving young people already covered by the first series of surveys on youth integration.

This function is an important source of information on the youth labour market. The Vocational Training Ministry recently asked CEREQ to carry out a survey along these lines in respect of the integration of trainees in the age group 16 to 18.

The system of observation for the entry of young people into working life is undergoing a considerable change. A new system which was applied on an experimental basis in 1983 in one academy, in 1984 in five academies and in 1985 in 12 academies is scheduled to be introduced on a general basis, in 27 academies in 1986.

Under this system, all young people leaving secondary education up to the levels "première" (final year general) & "terminale technique" (final year, technical) are to be covered by a survey employing questionnaires to be collected by the educational establishments under the supervision of the statistical services of the "rectorates" in such a way that the educational establishments are made aware of the conditions confronting their pupils in respect of integration into working life, and a basis is provided for progress studies by interview to be conducted by CEREQ three years after the pupils leave the education system.

Furthermore, a sample of "sixth-form school-leavers" and those leaving university after the first cycle will be made the subject of integration and progress surveys in order to obtain information on their development during the first cycle at university.

The surveys relating to those individuals leaving higher education and the "grandes écoles" will continue to be conducted by way of mailed questionnaires, but three years after leaving the establishments, i.e. 1987 for those students leaving in 1984.

The facts and figures and the analysis relating to the employment situation at the time this survey was conducted, the time required to find the first job, factors relating to a return to unemployment,

job mobility, enterprises, employment sectors, during the first years of working life, etc.,.

b) The Répertoire Français des Emplois

On the basis of 10 000 enquiries addressed to 4 000 enterprises, CEREQ has identified approximately 700 typical occupations. The Répertoire Français des Emplois (French File of Occupations), now completed, exists in the form of 20 units

It has served for the compilation of the nomenclature of Professions and Socio-professional Categories (PCS) which the Institut National de la Statistique et des Etudes Economiques (National Institute for Statistics and Economic Studies) used for the 1982 census.

The RFE is also a source of reference for the description of occupations for which training is given under the technical education system.

On the basis of the RFE, work has also been conducted on occupational groups and professional careers, a number in liaison with or on behalf of CEDEFOP.

It is intended to update these "typical occupations" in the form of occupational dossiers, particularly in respect of those occupations especially affected by the development of new technologies and new forms of work organization. An initial dossier will be concerned with information technology occupations and is being prepared in co-operation with the Agence Nationale pour l'Emploi and l'Agence de l'Informatique.

c) Programme for the Observation of Employment and Job Content in Enterprises

The work conducted under the aegis of the Minister responsible for Research, in a programme entitled "Technologie Travail Emploi" (Technology,Work,Employment), in banks and insurance companies,

office mechanisms and routines of relevance for the updating of the Répertoire Français des Emplois has shown that the methods employed do not offer the best possibility for an appreciation of developments. Technological change has many different implications both with regard to tasks and employment, depending on the economic environment and the social situation of enterprises in which such change takes place.

For this reason, since 1983 a programme for the observation of employment and job content in enterprises has been instituted. This programme provides for studies which analyse the development of employment and job contents on the basis of an in-depth appreciation of the situation within the enterprises. Furthermore, a sample group of enterprises is being selected for an initial study series which can be progressively updated.

This presupposes that a dual effort will be made concerning the comparability of these studies to be conducted by CEREQ but also by the network of 11 university laboratories with which CEREQ is associated. A joint survey guide and a standard monograph framework have been developed for the initial study series.

But it is also necessary to be able to measure the degree of general applicability of the observations made and here efforts will be made to achieve this aim through the work on the typology of enterprises in the various sectors.

- The sectoral dossiers

CEREQ, in association with the Centre d'Etudes de L'Emploi and the Service d'Etudes Statistiques et de Stratégies Industrielles of the Ministry for Industry, will be producing sectoral dossiers covering economic data and information relating to employment and the labour market. This information will be collected both at sectoral level and at the level of enterprises and educational establishments.

These dossiers will provide information

- on the products and work processes within the sector,
- on economic characteristics (concentration, productivity, foreign trade) and the characteristics of employment and training,
- on the sectoral institutions (union or employers' organizations, technical centres, training bodies,
- on the enterprise typologies which, as we have indicated, are of interest for the programme of observation on employment and job contents in enterprises.

d) Exploitation of vocational training statistics

On behalf of the Ministry responsible for vocational training,and with its financial support, CEREQ has,since 1972,been able to make an annual analysis of the tax declarations of those employers obliged to contribute to the financing of continuing vocational training.

Using this source, the studies can concentrate on the effort made by large enterprises in the field of continuing training, account being taken of their economic characteristics and on the behaviour and attitude of SME's vis-à-vis the legal obligation to which they are subject.

Each year a review is produced,the essential data of which are presented in the report submitted by Government to Parliament when the appropriations included in the budget of the Ministry responsible for vocational training are to be voted on.

2) Studies and research

The collection and analysis of information within the observation system is put to use in the study and research activities which are conducted around principal themes.

a) The relationship between training and employment

a-1) Vocational integration of young people and the mobility of labour

It would appear necessary to view the available information on young people in a much broader framework of the movement of labour, as has been shown by the work of Bilans Formation Emploi carried out in co-operation with the Institut National de la Statistique et des Etudes Economiques and the Statistical Service of the Ministry for National Education.

It has furthermore been established that the number of recruitments of young people leaving the education system represents only a small percentage of the total number of recruitments, i.e. approx. 10%, and that other recruitment sources are extremely important, particularly those of employees of other establishments in the same sector or other sectors, women re-entering employment and finally the unemployed. It would appear that the conditions for entry into working life differ according to the sectors concerned, the main recruitment practice in these sectors consisting of addressing those employees already working in an enterprise in the same sector or another sector, or to address young people leaving the education system or women re-entering the labour market. The percentage of young people recruited may vary from sector to sector in the ratio of 1 to 5.

These characteristics explain in particular the high rate of unemployment of young girls with a low level of training, placed in a situation where they must compete with women re-entering the labour market for access to low-skill jobs. There is also an indication of the role of certain sectors (car repair industry, commerce, hotel/catering, construction) concerning the availability of jobs to young people who have completed secondary training.

a-2) The relationships between enterprises and training institutions

Another aspect in the relationship between training and employment deals with the relationship between enterprises and training institutions.

Whether the apprenticeship system or the higher education system is concerned, there are multifarious links between enterprises and training institutions even if the statute of the institutions and/or the diploma they issue are the same, and this is of great significance for the integration of young people into working life, explaining at the same time the great number of disparities which exist.

At present, the Ministry for National Education has focussed its attention on this problem on the relationship between training institutions and their economic environment and has established a Commission "School-Enterprises".

b) Changing qualifications and jobs

The first thing that comes to mind is the problem of the introduction of new technologies. However, the work of CEREQ is based on the assumption that new technologies are only one element governing work organization. The enterprises are faced with economic problems linked with product development and the demand for services (with a tendency towards the diversification of demand and a greater need for quality) this requiring stricter management in a crisis situation (reduction of stocks and maximum utilization of material resources). In order to meet these needs, the enterprises must reorganize their work processes, which may lead to the utilization of new technologies or different procedures for the employment of human resources depending on the restrictions they are able to support either in respect of customary habits or societal behaviour in the field of employment or training, for example.

Taking into account the different situations in which the enterprises find themselves, there may be different answers to the question of work organization, even if they relate to similar technologies. Although it is true that the application of a specific technology automatically affects work organization, the manner in which it does so is not standard for all situations.

A number of questions may be asked in concerning the transformation of qualifications. A number are listed below.

b-1) Raising the level of qualifications

It has been established that demands are being made at the recruitment stage for a higher level of training. The question is to determine whether this correspond to a real development of skills required to carry out certain jobs or whether it is a precautionary measure in view of the greater adaptability of personnel in an environment considered to be uncertain and changing, or whether it is the result of a deterioration of the labour market.

b-2) The nature of mobilized skills

One often speaks of "polyvalence" and dual skills linking very often a trade skill (mechanic, accountant) with a new skill associated with the employment of new technologies and data processing.

At the same time, however, it can be seen that the differences between various functions are changing and becoming less distinct, between the manufacturing and maintenance processes, but also between production and administration, etc. This is also the case with the production and commercial functions. What is the magnitude of this phenomenon? Does this transformation involve a slight modification of the gap between various functions or is it to be seen as a more radical transformation with the disappearance of traditional boundaries?

b-3) The relationships between occupational groups

These change as a result of the phenomena mentioned above. They are most often analysed and seen by different groups as a modification of the relationships they maintain with each other. As an example, the introduction of new technologies results in new relationships between mechanics and electricians in the field of maintenance, between production staff and operations office, between data processing specialists and accountants. But there is also the problem of intermediate categories (management, control) the role of which has been thoroughly transformed.

For example, CEREQ's interest in these various questions is reflected by a number of in-depth studies on the relationships between skilled workers and production technicians in industries in the process of automation, and on the role played by the commercial function. In these studies the three issues relating to the level of training and the validity of skills actually employed are interwoven, particularly as regards the inter-linking of functions and the inter-relationships of occupational groups.

3) Prospects for employment and the trades

This third point is the one where we find most questions are asked It may be too simple or even illusory to attempt to give a short reply to a question such as "What are the trades of the future?". However, an attempt can be made to answer a number of sub-issues already referred to above.

A knowledge of the transformation of qualifications and occupations, an analysis of economic evolutions within the various sectors, and the consequent transformation of job structures, together with a study of the role of initial training and in-company training in meeting the new needs for qualifications, are many elements which may contribute to a better understanding of the development of training needs, both quantitative and qualitative.

III - Applications

The work of CEREQ is of no importance unless it is able to explain decisions taken. This requires a system of liaison with the various administrations, as its working methods and routines are unable to reply to selective and immediate requests unless it has at its disposal "stock" from which it can compile a reply.

The statute of CEREQ stipulates that it should participate in the work of various bodies:

- the Commissions Professionnelles Consultatives which give their opinion on the expedience of creating or reforming secondary technical training, as well as on training content. It is represented at all levels of this consultative institution, Commission Professionnelle Consultative (CPC), Comité Interprofessionnel Consultatif (CIC) and the "groupe permanent" (standing working party) of CIC;

- The Committee for the approval of certificates and diplomas of the Technical Education System (Enseignement Technique), which is obliged to monitor the level of training provided under the auspices of Ministries other than that of National Education.

It is in regular contact with the Ministry for National Education and the Directorate for Higher Education (Enseignements Supérieurs) with which it examines proposals for new training provision in the "first cycle" made by the Directorate of the Lycées within which there is a standing working party for technological education (Enseignements Technologiques) comprising the Directorate of the Lycées, the Inspectorate General for National Education and CEREQ. Within this framework, it has produced training and employment dossiers for the sectors construction, tertiary, office employment and mechanical engineering. Future dossiers (June and November 1985) will cover employment in the electrical

and electronic fields, in commerce and marketing. CEREQ is also involved in work concerning the updating of diplomas for the short and long second cycle in these sectors.

It has numerous links with the Ministry of Labour, Employment and Vocational Training through the Delegation for Employment, on behalf of which it carried out sectoral studies in 1983 on machine tools and the iron and steel industry, or through the Delegation for Vocational Training, for which, as already mentioned, it carried out a survey in 1984 on the progress made by trainees in the age group 16 to 18.

CEREQ participates in numerous ad hoc working groups set up by the various Ministries (the Commission "Education-Enterprise", sectoral groups set up in the field of construction and public works, informatics or automatic production systems), or the Planning Commission (Commissariat au Plan) Industrial Strategy Group on social relations within the enterprise and has links with l'Agence Nationale pour l'Emploi (National Employment Agency), l'Association pour la Formation Professionnelle des Adultes (Association for Vocational Training of Adults) and the Interministerial Delegation for the vocational and social integration of young people.

The Interregional Centres associated with CEREQ are, for their part, involved in the work of the regional bodies.

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A review of the activities of CEREQ would not be complete if mention were not made of its publications and its international relations.

The publications include :

- A journal "Formation Emploi" distributed by subscription with a circulation of 2 500,

- A research bulletin on Employment and Training (BREF) distributed free of charge and having a circulation of 6 000,

- A series of studies distributed free of charge on request.

Concerning its international relations, these concern, on the one hand, activities directed towards those countries in the process of development, which are either of a bilateral nature or are channelled through international institutions (in particular ILO) and on the other hand activities carried out for or with international organizations (OECD, European Communities, CEDEFOP), and relations with certain national counterparts, e.g. the National Center for Research on Vocational Education in the U.S.A. or the Bundesinstitut für Berufsbildung in the Federal Republic of Germany.

NATIONAL TRAINING RESEARCH AND DEVELOPMENT ORGANIZATIONS

WORKING

MEETING

20-21 May 1985

INTRODUCTION TO ISFOL AND ITS ACTIVITIES

ITALY

I N D E X

		Page
1.	Introduction: legal and institutional structure of ISFOL	33
2.	Activities in 1984	35
3.	Terms of reference for activities in 1985	35
4.	Three-year programme 1984/1986	36
5.	Priority areas for 1985	38

By Cristina Luchini

1. INTRODUCTION: LEGAL AND INSTITUTIONAL STRUCTURE OF ISFOL

ISFOL is an organization subject to public law. It was established by Decree of the President of the Republic No. 478 of 30 June 1973 and became operational as from 1 February 1974.

The Decree of the President of the Republic establishing ISFOL stipulates that, subsequent to the assignment of vocational training policies to the regions, it shall have the task of ensuring the general co-ordination of vocational training policies in Italy; in this sense, ISFOL may be considered as a technical agency of the Ministry of Labour in matters concerning the promotion of training activities.

By Decree of the President of the Republic No. 249 of 1 April 1978, ISFOL was recognized as a public service organization and given the status of a "Public Research Organization" according to Law No. 70 of 20 March 1975.

When the "framework vocational training act" No. 845 of 21/12/1978 was passed, the functionsof the institute were defined in Article 19 in terms of a technical assistance to the Ministry of Labour and to the regions in the exercising of their respective vocational training functions.

Article 20 of the same Law assigned to ISFOL, amongst other things, the task of producing an annual report on the situation and planning of vocational training activities in

Italy. The report has now reached the 6th edition. In brief the institutional aims of ISFOL are:

- the promotion and realization of research and studies on the labour market and vocational training;
- the promotion and realization of research and studies on "professionalism" (1) and on the changes in occupational structures;
- technical assistance to the Ministry of Labour and to the Regions in respect of activities designed to eliminate any desiquilibrium on the market;
- didactical experimentation;
- the documentation and study of employment and vocational training policies.

Administrative bodies of the Institute:

- The President
- The Management Board comprising 19 Members representing the Ministries of Labour and Finance, the Regions, the most representative organizations of the Social Partners, the training experts of the public economic organizations and professional organizations and an expert appointed by the Ministry of Labour; a representative of the staff of the Institute is also a Member of the Board;

- The Director General.

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(1) **professionalità**

2. ACTIVITIES IN 1984

In 1984 attention was centred on:

- cultural change and technological requalification;
- the integration of young people into working life;
- the mobility of the adult labour force.

This resulted in a proposal for the Institute to conduct five projects:

1) technological innovations and new "occupational skills";
2) youth employment;
3) vocational training of adults;
4) quality and efficiency of training activities;
5) secondary education and vocational training systems.

Following an in-depth study and subsequent development, these projects were reduced to four: the project concerning upper secondary education and other vocational training systems was made the subject of two research projects on the reform of secondary education.

3. TERMS OF REFERENCE FOR 1985 ACTIVITIES

Phenomena to which renewed attention has been devoted in the course of the last few months and which form the framework for activities in 1985 involve the following subjects:

1. The problem of unemployment, for which a basis for a new employment policy was established through the agreement of 22 January 1983 and above all through the draft agreement of 14 February 1984;

2. Training demand, within which specific attention is devoted to the demand expressed by the "subjects", i.e. in addition to the study of the "collective demand" created by the current socio-economic development, consideration must be given to the "individual demand" expressed by the labour force, whether explicit or potential (small and medium enterprises, new technologies, new "occupational skills");

3. Training provision, which, in view of the great variation in demand, encompasses four systems which at present are extremely rigid (the systems of the State, enterprise, the regions and the private sector).

4. THREE-YEAR PLAN 1984/1986

The activities of the Institute are based on these three-year programmes defining, in general terms, the subject to which special attention is to be devoted.

For the period 1984/86, the programme presented to the Management Board of the Institute lays emphasis on the need to develop further the capacity for work relating to innovation, that is to say to interlink studies, research and

technical aid to the regions with the far-reaching and rapid cultural,technological and organizational changes with which all the training systems are concerned.

At the same time there is a need to give special consideration in the three-year period to the question of "the quality of training in various situations and at different periods in which training activities take effect".

In pursuing this objective, the following areas for study have been identified:

1) job modification and restructuring, etc.;
2) spontaneous mobility - occupational mobility - flexibility (adaptability);
3) integration into working life (modalities, new instruments, pilot projects, necessary reforms);
4) the school system, relationship between general education and training;
5) orientation;
6) specialized vocational training (with a selective study of cultural links between the regions, schools, enterprises and the Chambers of Commerce, etc.);
7) further training - qualification - requalification - continuing and recurrent training;
8) application of new community policies for training and employment.

Many of these subjects must be seen in the light of an in-depth reflection on technological innovation and new "occupational skills".

5. PRIORITY AREAS FOR 1985

Considerations concerning the reference framework and the lines of action for 1984 to 1986 have led to the establishment of the following priority areas for activities in 1985:

1. the definition and experimental implementation of job creation activities and finalized training measures, to be conducted in co-operation with the social partners, the enterprises and local organizations;
2. the development of the production process and its consequences for work organization, industrial relations "occupational skills" (analysis and work hypothesis);
3. definition and experimental implementation of new training models as related to the development of the labour market and changes linked with the introduction of new technologies;
4) redefinition and development of the role of the region in order to achieve :

   a) an alignment of the training systems in the area concerned;

   b) large scale computer literacy;

c) the analysis and replanning of training structures;

d) the requalification of trainers and regional administrators;

e) the creation of a system of continuing education and training.

NATIONAL TRAINING RESEARCH AND DEVELOPMENT ORGANIZATIONS

WORKING

MEETING

20- 21 May 1985

GOVERNMENT SPONSORED RESEARCH INTO VOCATIONAL TRAINING IN THE UK

C E D E F O P

Berlin

GOVERNMENT SPONSORED RESEARCH INTO VOCATIONAL TRAINING IN THE UK

INTRODUCTION

1. As is well known to the Commission the UK Government, in its New Training Initiative (NTI), set itself 3 training objectives which are directed towards meeting the needs of a modern economy. These are

(1) promoting the development of skill training,
(2) movement towards a position where all young people under 18 are offered either full-time education or planned work experience combining work-related training and education, and
(3) opening up opportunities for adults to acquire, increase and update skills and knowledge throughout their working life.

2. Prime responsibility for the delivery of these objectives lies within the Training Division (TD) of the Manpower Services Commission (MSC) which is accountable to the Secretary of State for Employment.

ORGANISATION OF RESEARCH AT NATIONAL LEVEL

3. At Government level research into vocational training is focussed on NTI and is organised primarily by MSC's TD, which has responsibility for the initiation and management of research projects. Research covers statistical surveys,

programme evaluation and examination and development of fundamental issues connected with contents of TD programmes. MSC also directs significant resources towards "development" work which tends to focus on outputs of more immediate application to programmes and is administered and funded separately from research. Work has included developing the Youth Training Programme with respect to its content, notably through the ESF project on "work based projects", training of trainers and other aspects of delivery, as well as work connected with Adult Training and the Open Tech Programme (OTP).[1]

4. Some research also occurs within the Department of Employment (DE) itself, though its focus is the wider labour market role of Government and other economic and manpower studies which carry implications for training. A further major contribution to training research is made by the Department of Education and Science (DES) funded Further Education Unit (FEU)[2], while the DES funds a small number of

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1. The Open Tech Programme was launched in Autumn 1982 with the aim of promoting the application of open learning methods (ie. learning at a pace and place suited to the needs of the individual) to assist the education, training and re-training of adults at technician and supervisory levels of skill and knowledge. The programme provides pump-priming finance for a series of collaborative projects run with and through existing educational and employer institutions. It is part of NTI (3) and the Adult Training Programme.

2. The FEU was set up in 1977 with the objective of promoting, encouraging and developing the efficient provision of Further Education (FE) in the UK. Originally part of the DES, the FEU has always had its own Board of Management and its own Research and Development budget, but its status changed in 1983. From 1 January it became a company limited by guarantee, though receiving its income from DES grant. Within its wide remit the Board has always maintained a strong focus on vocational preparation, particularly the curriculum needs of young people not hitherto in the mainstream of FE.

its own research projects.[1] FEU's role is important because vocational preparation, broadly defined, underlines much of their work in further education; about one quarter of their resources (staff time and external research projects) are allocated to vocational preparation, more narrowly defined. FEU also administers a DES budget for "pick up" projects (assisting employed adults to update technical skills).

5. Additionally two further independant but publicly funded national bodies support research which impinges on Vocation Preparation. The National Economic Development Office (NEDO)[2] funds one or two projects annually providing insights into links between economic growth and training within NEDO's wider remit to examine and encourage economic growth. Secondly, the Economic and Social Research Council (ESRC)[3] funds a small number of relevant projects annually within designated priority areas which presently includes research relating to "Industry and Employment".

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1. Most DES research is directed at school level and below; in 1983/84 only 7% of its research budget was allocated to the area of Further, Higher and Adult education.

2. NEDO provides administrative support for national and sector level working parties at which government, employer, Trade Union and other key interests regularly discuss ways of improving economic and industrial performance. It also has an innovatory function which is assisted by a small research budget.

3. ESRC was established by Royal Charter and receives funds from the DES vote for the promotion of social science research. It provides research grants to academic and research institutions including individual students.

RESEARCH STRATEGIES

6. The objectives of the New Training Initiative are the development of competence-based training and increased access to it, a comprehensive foundation training programme for school leavers and wider availability of training and re-training for adults throughout their working lives. MSC TD's research projects aim primarily to assist the delivery of these linked objectives and to evaluate results. Research supporting NTI concerns fundamental questions covering programme evaluation, programme development (including learning processes) and economic and labour market issues, particularly the training consequences and requirements of technical change such as multi-skilling. A list of current and completed work is attached.

7. FEU's and DE's research in vocational preparation has largely been in response to NTI's demands, with FEU focussing on the contribution of F.E. Colleges, including questions of curriculum development, and DE on the labour market implications.

RESEARCH IN TRAINING DIVISION OF MSC.

A. CURRENT PROJECTS

PROJECT TITLE	RESEARCH ORGANISATION	OBJECTIVES
OBJECTIVE 1		
SELECTION AND TRAINING FOR COMPUTER PERSONNEL	Occupational Services Ltd	Develop through research improved procedures for selecting/training/assessing computer personnel at programmer/analyst level
FAULT FINDING IN HIGH SPEED PROCESSES	Technical Change Centre	Extend examinations of strategies used to meet changing maintenance regs in process inds high speed packaging equipment.
BEST PRACTICE IN SKILL PACKAGING FOR CNC MACHINES	Technology Change Centre	Determine how new tech affects work organisation trng. Identify good practices.
OBJECTIVE II		
SPONSOR CENTRED REVIEWING	Internal	Establish approach to enable sponsors dev/imp YTS quality and negotiate with MSC field staff re quality
EXTENT OF QUALIFICATIONS IN YTS	Internal	Survey to find what qualifications are being offered within YTS schemes by employers.
REGULAR FOLLOW UP STUDIES OF YTS TRAINEES	Internal	Regular follow up postal surveys of YTS graduates to determine first and subsequent destinations.
WIDER LABOUR MARKET EFFECTS OF YTS AND YWS STUDY	Technical Change Centre	Employer interviews to establish wider effects of YTS and other measures on local labour market policies and trends.
ECONOMIC ANALYSIS OF WIDER LABOUR MARKET EFFECTS OF YTS & YWS	Queen Mary College	Economic analysis of above
SCHOOL LEAVERS STUDY - ENGLAND/WALES	SCPR/Univ Scheffield	Follow up of 40,000 sample 84/85 & 85/86 16 yr old school leavers in England & Wales

PROJECT TITLE CURRENT PROJECTS CONTD. OBJECTIVE III	RESEARCH ORGANISATION	OBJECTIVES
SCHOOL LEAVERS COHORT STUDY - Scotland	CES	Follow up of 10% of 16 yr old school leavers in Scotland
MODES WITHIN YTS	Internal	Examine how Modes cater for different client groups and extent to which forms of provision can be transferred.
DISABLED IN EMPLOYMENT	Manchester Univ (sub-contracting to Hester Adrian & RNIB)	Identify examples of trng adaptations and determine future trng needs of blind/ deaf/mentally handicapped.
RETRAINING IN ELECTRONICS	NEDO (IMS)	Examine retraining in occupations affected by electronics/identify good practices
DEVELOPING LEARNING SKILLS AMONG ADULTS	UWIST/(S Downs)	Help adults/learners to experience/select/apply learning skills/strategies.
INFORMATION & ADVISORY SERVICE FOR WALES PILOT	WJEC (Welsh Joint Education Council)	Establish, run and monitor a pilot information advisory service about continuing education & training provision.
REGULAR FOLLOW-UP OF TOPS TRAINEES	Internal	Provide management Info on activities, destinations etc. of ex-Tops trainees, 3 months after leaving.
EVAL OF LOCAL COLLABORATIVE PROJECTS (CLP'S)	Internal/External (contractor to be selected)	Analse effect of LCP prog in stimulating collab. arrangements. Identify conditions for successful collab. Assess wider labour market effects.
GRANADA JOBWATCH MORI POLL	MORI	MSC contribution to MORI Poll assessing individual and group attitudes towards job changing and training.
STRATEGIC CHANGE AND HUMAN RESOURCE MANAGEMENT	Warwick Univ	Studying trng systems in firms undergoing rapid change.

PROJECT TITLE CURRENT PROJECTS CONTD OBJECTIVE III	RESEARCH ORGANISATION	OBJECTIVES
NEP ADVERTISING CAMPAIGN	COI	Ascertaining reasons for low level of NEP course applications.
CROSS NTI OBJECTIVE MANPOWER FOR IT	IMS	Examine supply/demand of IT skills. Assess measures to avoid manpower shortages.
MONITORING NEW TECH + ITS EMPLOYMENT + SKILL IMPLICATIONS 3rd Year	Aston Univ Sussex Univ (SPRU)	Studying effect of new tech on employment + skills of robots, the operation of contract maintenance orgs and developments in retailing.
BUILDING SKILLS FOR TOMORROWS JOBS	NEDO (Building EDC)	Assessing feasibility of local consortia collecting data to aid local planning of construction trng
TECHNOLOGY MONITOR	Aston Univ (TPU)	Continue development of prototype technology monitor into operational pilot system, and test on potential MSC users.
MOTHERWELL LABOUR MARKET INFORMATION	Glasgow Univ	Supp analysis of existing data to assess usefulness + impact on improving operation of labour market.
INTEGRATION + PRESENTATION OF MANPOWER DATA FOR TTWA'S (NUMAC)	Durham Univ Newcastle Univ	Set up a manpower data base for GB to provide info at TTWA level, built from Stats for local employment office areas.
NATIONAL CHILD DEVELOPMENT	National Childrens Bureau	Continuation to DHSS, MSC, DES, DE + DOE support to the longitudinal study of YP's born in 1958.
LABOUR FORCE SURVEY	OPCS	Regular household interview/ telephone survey to assess trng rec'd employment status etc.

PROJECT TITLE CURRENT PROJECTS CONTD	RESEARCH ORGANISATION	OBJECTIVES
LABOUR MARKET INFO FOR SPECIFIC POPULATION GROUPS	CURDS	To define local lab markets by occ + social groups, + assess whether industrial composition info can be used to estimate local changes in occ structure
VOCATIONAL TRAINING STANDARDS IN BRITAIN COMPARED WITH OTHER ADVANCED COUNTRIES (FRANCE)	NIESR/ (S Prais)	Comparing British and French vocational trng standards + processes involved.
RESEARCH + DEVELOPMENT TO IMPROVE EDUCATION + TRAINING EFFECTIVENESS	IMS	Identify/propose options for establishing an information/ research base to improve effectiveness of UK's education/training system.
LEARNING AND THE DESIGN OF COMPUTER BASED AND INTERACTIVE VIDEO TRAINING	Internal	To produce guidelines for training designers who use computers and IAV. To be used to develop training material to serve as examples, and pass to test and further refine the guidelines.
B. COMPLETED OBJECTIVE I		
DEFINING STANDARDS IN SECRETARIAL TRAINING	City University Business School (R Silverstone)	Examination of the standards employers expect from their secretaries.
SELECTION AND TRAINING FOR COMPUTER OCCUPATIONS	Occupational Services (Dr. Patrick + P.Spurgeon	Assess feasibility of developing nat standards for selection + trng + comp occs.
OBJECTIVE II		
PRACTICAL MATHS SKILLS ON HIGH QUALITY YOP/YTS	London Univ Inst of Education	Aiming through action research to improve measurement, assessment and acquisition of practical maths skills on YTS.
SCHOOL LEAVERS COHORT STUDY SCOTLAND PILOTS	Centre for Educational Sociology (Edinburgh)	Estab info base for monitoring YTS and non YTS trainees and eval prog effects. Pilot for main study (CRAU 3166)

PROJECT TITLE COMPLETED PROJECTS CONTD	RESEARCH ORGANISATION	OBJECTIVES
SCHOOL LEAVERS COHORT STUDY - SHEFFIELD AND BRADFORD PILOTS	Sheffield Univ	Esta info base for monitoring YTS and non-YTS trainees and eval prog effects. Pilot for main study (CRAU3103)
ACCIDENTS ON YOP STAGE II	Aston University	Study of further 20% sample of accident reports, comparing accidents to YPs with those to employees.
NEW TECHNOLOGY AND THE AUTOMATED OFFICE	Univ of London	Develop/optimise/evaluate trng modules in new tech and the automated office for application on 12 month and 4 week course in ITeCS.
YTS TRAINEES FOLLOW UP NON RESPONDENT INTERVIEW SURVEY	NOP	Interview survey of non-respondents to validate postal follow up.
REVIEWING AND RECORDING	Internal	Monitoring certification of YTS trainees.
ETHNIC MINORITIES + YTS	SAUS (Bristol Univ)	Examine YTS provision for ethnic minorities to indicate + explore practical ways of achieving equal opportunities.
ACCIDENTS ON THE YOUTH OPPORTUNITIES PROGRAMME STAGE I	Aston Univ (Prof. Booth)	Comparing accidents to YPs on YOP with accidents to employees.
REGULAR FOLLOW UP SURVEYS OF EX-YOP WORK EXPERIENCE ENTRANTS	Internal	Provide management info on scheme types, eg. opinions of YOP, activities + destination of post-YOP, assess how programme objs have been met.
YTS CONTENTS SURVEY	Internal	Monitoring YTS Scheme content against current reqts identify/discriminate good practice.
YTS PROVIDERS SURVEY 84/85	SCPR	Ascertain costs/benefits in operating YTS

PROJECT TITLE COMPLETED PROJECTS CONTD	RESEARCH ORGANISATION	OBJECTIVES
INFORMATION TECHNOLOGY PILOTS IN TRAINING WORKSHOPS	Community Projects Foundation	Introductin Inf Tec Lrng modules in TW's/eval effects.
DEVELOPING LEARNING SKILLS FOR YOP/YTS ENTRANTS	UWIST	Develop optimum lrng skills for YP's with implications for scheme staff trng + curricula.
OBJECTIVE III		
SKILL SHORTAGES IN MANUFACTURING INDUSTRY	CBI	To identify occs in skill shortage. Assess whether these are getting worse + what firms are doing about them.
THRESHOLD TRAINEE FOLLOW UP SURVEY	National Computing Centre (NCC)	Examine career progression of trainees from Threshold Scheme to help determine future of scheme.
EVALUATION OF SMALL BUSINESS DEVELOPMENT PROGRAMMES	NOP	Eval of Small Business Dev progs attempting to attribute small business dev to attendance on the progs.
EVALUATION OF ACTION SPECIAL 19+ CAMPAIGN	Internal	Eval 19+ radio campaign to assess worth of mounting a further campaign.
RESEARCH ON EAS AWARENESS	NOP	Testing public awareness of EAS + Small Business Courses.
WOMEN IN SKILL CENTRES	Internal + Public Attitudes Surveys Ltd	Eval SC courses for women in non-trad occs. Implications for staff trng instruction trng + facilities.
SMALL BUSINESS TRAINING NEEDS OF ETHNIC MINORITIES	Middlesex Polytechnic	Eval whether trng progs for entrepreneur meet special needs of afro-caribbeans.
INDUSTRIAL LANGUAGE TRAINING (ILT)	BJM Research	Evaluation, ind costs/benefits of ILT provision.

PROJECT TITLE COMPLETED PROJECTS CONTD! OBJECTIVE III	RESEARCH ORGANISATION	OBJECTIVES
EVALUATION OF ALTERNATIVE WOW PROVISION (AWOW)	Internal	Postal survey comparing/evaluating effectiveness of WOW & AWOW courses
ATS PILOT EVALUATION STAGE I	Internal	Examine the admin procedures in implementing pilot schemes. Views of area staff and analysis of application forms.
ATS PILOT EVALUATION STAGE II	BMRB	Seek views/comments of firms + trng providers on admin procedures of pilot grants, to assist in design of procedures for 85/86 ATS schemes.
DEVELOPMENT OF A BRITISH VERSION OF A POSITION ANALYSIS QUESTIONNAIRE	Occupational Services (Dr. Patrick)	Develop/evaluate job descriptive inst to assist retrng/ upgrading.
TRAINERS + CHANGE (Preliminary Study)	Warwick Univ (Prof. Pettigrew)	Studying trng systems in firms undergoing rapid change.
CROSS NTI		
TECHNICIAN TRAINING IN THEATRE INDUSTRY	NOP	Assist Training Committee of the Theatre National Council to improve trng provision for tech skills in entertainment ind + related sectors (TV, video + Record Production)
SURVEY OF WELDING + FABRICATING SKILLS	Internal	Determine skills required as result of tech change + intro of new processes + materials.
MANAGEMENT + IR CONSTRAINTS	ERL (C Brewster)	Position paper identifying key area relevant to mgt/org responsiveness to NTI 5.
STRUCTURE INFORMATION ON TRAINING	Manchester Univ	Collation of data re different sources for funding trng.

PROJECT TITLE COMPLETED PROJECTS CONTD CROSS NTI	RESEARCH ORGANISATION	OBJECTIVES
RELEVANCE OF TRAINING IN THE 1980s	NEDO	Comparing performances of W Germany/Japan/USA with UK in role of voc educ + trng.
SKILLS MACHINERY + PRODUCTIVITY INTERVIEWS	NIESR	Pilot survey of eng firms to determine relative merits of German/British productivity practices.
RESEARCH INTO SANDWICH EDUCATION (RISE)	Brunel Univ	Identify costs/benefits of sandwich education. MSC funding student productivity survey. (Other funding by DES/DE/DT/SO)
PATTERNS OF CHANGE IN LOCAL LABOUR MARKET	Newcastle Univ	Assess performance of labour markets 1971-81, + components of change by occs, inds + population.
MANAGERIAL REDEPLOYMENT	Durham Univ	Assess new fields of employment + ways to encourage the relevance of counselling redundant employees.
RESEARCH ON YOUNG ADULTS	D N Ashton M J Maguire	Investigation into labour markets for young adults.
NET COSTS OF TRAINEES TO FIRMS	NIESR	Examine net costs of trainees to firms, allowing for value of output produced.

NATIONAL TRAINING RESEARCH AND DEVELOPMENT ORGANIZATIONS

WORKING

MEETING

20-21 MAY 1985

AnCO'S PLANNING, RESEARCH AND DEVELOPMENT STRATEGIES

IRELAND

C E D E F O P
BERLIN

AnCO'S PLANNING, RESEARCH AND DEVELOPMENT STRATEGIES

INTRODUCTION TO AnCO

AnCO is the commonly used abbreviation for An Chomhairle Oiliuna, Ireland's Industrial Training Authority, which was established in 1967 with the primary object of raising to the highest international standards the skills of Irish people at all levels in commerce and industry.

The general functions of AnCO, as set out in the Industrial Training Act of 1967, are :

- to provide for the training of persons for the purpose of any activity of industry and

- to promote, facilitate, encourage, assist, coordinate and develop the provision of such training by such means as AnCO considers necessary or desirable.

The overall aim of AnCO is to promote and provide training to help achieve national objectives and by so doing to assist individuals to secure satisfactory employment and businesses to be more successful.

ORGANISATIONAL STRUCTURE

The Council is AnCO's decision-making body and consists of a Chairman and thirteen ordinary members appointed by the Minister for Labour. The ordinary membership of the Council is made up of five employer representatives nominated by various employer bodies, five worker representatives, nominated by the Irish Congress of Trade Unions, one educational representative and two representatives of the Minister for Labour.

The Council is assisted in the discharge of its duties by seven advisory Industrial Training Committees. Each Committee is representative of appropriate employer and worker organisations and educational interests. Each has an independent chairman and is responsible for its own particular industrial sector. Committees in operation at present are: Textiles, Clothing and Footwear, Food Drink and Tobacco, Construction, Engineering, Printing and Paper, Chemical and Allied Products.

The day-to-day administration of AnCO is managed by the Director General, who is directly responsible to the Council. Reporting to him are the five Directors of Personnel, External Training, Training Advisory Services, Training Centres, Finance and Administration. The Deputy Director-General has a particular responsibility for strategic planning and reporting to him is the Planning, Research and Development Division.

The first responsibility for training and development falls on individual firms: AnCO's policy is to encourage and assist firms to meet this responsibility.

In relation to individuals, where training and development needs exist which are not adequately met, it is AnCO's policy to meet those needs by direct action following consultation with other interests concerned. In carrying out this policy, AnCO uniquely provides

- for the promotion of the training of the employed mainly through the assistance of the Training Advisory Service

- for the training of the unemployed in its Training Centres and subcontracted facilities.

AnCO is involved in the following major activities:

1. TRAINING ADVISORY SERVICE

The work of the Training Advisory Service includes company visits, production of levy/grant schemes, consultation with the industrial training committees, coordination of training facilities, responsibility for apprenticeship training and validation of training grants for the Industrial Development Authority.

2. INDUSTRIAL TRAINING CENTRES

AnCO provides facilities at 18 centres for the training of unemployed and redundant workers, as well as the initial training of apprentices and special courses aimed at updating the existing skills of workers.

3. APPRENTICE TRAINING

The training of all registered apprentices is one of AnCO's statutory responsibilities and a number of trades have been 'designated' as statutory trades for apprentice training purposes. Within the range of broad occupational skills currently utilised in industry and commerce, the apprenticeship system represents a fundamental development framework under which the key craft based skills in the Construction, Engineering and process industries are developed and maintained.

4. EXTERNAL TRAINING

In 1979 AnCO set up a new operating Division to provide training for unemployed people. The External Training Division seeks out spare training capacity in the industrial, commercial services and educational sectors. The method used, to subcontract the training to outside or external agencies, enables AnCO to provide a very flexible, responsive and wide ranging set of training programmes. Since it has been set up the Division has increased its level of training activity from just over 1,000 trainees in 1979 to in excess of 11,000 in 1983.

While nearly 200 different courses have been developed in this time, an increasing emphasis has been placed recently on enterprise type courses such as 'Start Your Own Business', youth enterprise programmes, product development, design, and export marketing courses.

5. PLANNING, RESEARCH AND DEVELOPMENT

The role of the Planning, Research and Development Division is to identify the current and future manpower needs of industry and devise plans to meet those needs, as well as researching and developing training technology as it applies to Irish industry. The Division is involved in

- preparing detailed sectoral and regional manpower reports
- disseminating technical information both within AnCO and in response to external requests
- programme monitoring and evaluation
- testing
- certification
- quality assurance
- programme design
- research into flexible learning systems
- pedagogic research
- attitude and market research.

FUTURE STRATEGIES

The Irish Government published its national economic and social plan in October 1984 covering the period 1985-'87, identifying unemployment as the most serious problem facing the country. Against this background AnCO aims to ensure

- that the Irish workforce at all levels of skill will be trained to the highest international standards and be fully competitive with comparable workers in other countries

- that all persons with the will and capacity to do so can improve their standards of skill so as to increase their earning power and derive greater job satisfaction

- that training is provided to assist employment creation and regional/community development.

In its Strategic Plan 1985-'89, AnCO has identified training strategies to deal with specific needs under three broad headings - training for those in employment, basic training strategy for young people, and training for other unemployed people of all ages.

Training within industry, sponsored training, management training and the Youth Traineeship Initiative are key parts of AnCO's plan to meet the training needs of the employed. Training within industry is usually done through AnCO's Training Advisory Service (referred to earlier) and future interventions will concentrate on helping industry adapt to new technology, small business development, and increased use of open learning and computer based instruction. Sponsored training will involve AnCO providing direct training assistance for a fee to enterprises whose size or nature of training needs are such that the enterprises could not meet those needs themselves. In a Discussion Document published in 1984, AnCO identified areas where managers' skills in Ireland need improving, and management training will be an important part of AnCO's assistance towards improving Irish business. The Youth Traineeship Initiative (YTI) is aimed at young people with poor qualifications who are employed in jobs which offer little opportunity for structured training or development. The YTI proposal will be discussed between training and education interests and the social partners, but basic principles are a formal training agreement between a young person and an employer to provide for further education/training over one or two years through some form of alternance and the opening-up of a facility to allow trainees to aspire to (higher) qualifications through a system of accumulation of units or credit, based on work experience and completed training/education modules.

With the particularly large youth population in Ireland, AnCO has a major role to play in providing training for young people. AnCO's basic training strategy for young persons has four main components - work preparation, skills foundation programme, statutory apprenticeship and the Youth Traineeship Initiative mentioned earlier.

AnCO believes that adequate work preparation should be given to all young people before their entry into the labour market, i.e. during second level schooling, and that this should be the responsibility of the education sector. The Skills Foundation Programme currently in its final stages of development is AnCO's main contribution towards the social guarantee and is aimed at those young people who have not found jobs or other training opportunities. The Programme goes beyond work preparation and aims to provide an integrated programme of training, education and work experience leading to a specified standard of achievement and recognised national certification.

In consultation with the social partners, AnCO is proposing revisions in some areas of Ireland's apprenticeship system primarily due to cost and equity considerations. Changes suggested centre around increased involvement for employers, skills training based on a 'standard reached' basis, supply of apprentices to be matched with forecast demand and a reduction in the heavy State financial burden associated with first year apprenticeship training.

AnCO's training provision for other unemployed persons involves changes in the areas of specific employable skills, enterprise training, community based training and training for older workers. Because demand from the industrial and commercial sectors for persons trained in specific employable skills has been falling, AnCO intends reducing the output of persons from specific employable skills courses over the next five years, although ongoing monitoring of labour market demand for specific skills will continue at national and local level to ensure that changes in demand can be speedily reflected in AnCO programmes.

A major part of AnCO's training strategy is the development of entrepreneurial skills programmes are designed to encourage, identify, and train would-be entrepreneurs. In the Industrial Development Authority's new Enterprise Centre in Dublin, the largest to date in Europe, there are, on one site, established industries, new high-technology companies, craft workers, people trying out fresh products, original ideas and new markets, and an AnCO Training Centre providing courses on business management and development, with a special emphasis on first-time business.

As a party to the EEC Council Resolution of July 1983 concerning vocational training policies in the European Community, Ireland, and AnCO as the national training authority, undertook to develop training facilities in connection with local initiatives to stimulate new economic activity and to promote employment. The success of AnCO's community based programmes testify to the wish of local communities to identify their development potential and there is a wide range of action programmes which AnCO, either by itself or in partnership with other agencies, can offer in this regard. AnCO intends intensifying its efforts in relation to community-based training.

Changes in Ireland's age structure mean that according to latest projections there will be virtually no growth in the mid 1980's in the 15 to 24 age group but the 25 to 34 group will continue to grow. AnCO intends tackling the problem of older unemployed workers by positively discriminating in favour of older applicants for training, setting specific targets for training over 25's on employable skills courses, introducing new and adapted courses particularly those directed towards self-employment, running 'Fresh Start' programmes for redundant workers and community based training.

MAIN RESEARCH THEMES

The main research themes on which work is being done in AnCO at the moment are closely tied in to the objectives outlined above and in the Strategic Plan. The Industrial Training Act of 1967 which set up AnCO stated that AnCO should:

> 'Carry on or assist persons in the carrying on of research into any matter relating to training for the purposes of any activity of industry'.

AnCO is at present fulfilling these objectives through research into the planning, development, management and evaluation of training systems. AnCO's Planning, Research and Development Division has a central role in the coordination and provision of this research and development as well as coordinating strategic and corporate planning at an organisational level.

The type of research and development activity carried on within AnCO has been widely recognised at both national and international level. Among activities undertaken is research into the current and future manpower needs of industry, and the provision of comprehensive manpower information in order to identify specific training needs within the labour force and to forecast skill shortages. This information is provided through labour market and related research as well as sectoral studies, such as that recently undertaken to assess the future manpower and training needs of the retail motor trade in Ireland.

Apprentice intake is also regularly monitored and attitudinal surveys undertaken in order to assess societal response to training and manpower issues. Recent surveys in this area have covered attitudes of older workers to training and retraining and the aspirations of young people facing the transition from school to work.

An important aspect of current research work is the evaluation of AnCO's training programmes, as well as research into trainee selection and testing techniques. Information on vocational training in general and training research in particular is provided through the Planning, Research and Development technical information service which liaises with other training research agencies such as CEDEFOP to facilitate the exchange of information.

FUTURE RESEARCH PRIORITIES

The implications for AnCO of technological change are numerous. Change can affect either the way the product (TRAINING) is produced or the product itself. For example, if industry requires a new skill as a result of technological innovation then AnCO may have to provide the newly emergent skills to the trainee population. However, even traditional skills which may be relatively unaffected by technology may be produced in a new way using the benefits of new training technology.

Two different approaches have been adopted by AnCO to meet the challenge of technological and occupational change. The first involves instituting new training courses or elements of training courses such as the introduction of the 'Skills Foundation Programme' which will allow for a more flexible approach to occupational change. The second involves introducing new training delivery systems to meet the growing demand for on-the-job and entrepreneurial training, particularly for small businesses.

In order to strengthen the organisation's efforts to effect these changes additional research priorities have recently been established which will provide for research, development and piloting of new training initiatives in curriculum design and the introduction of flexible learning systems, such as open learning techniques. Emphasis will be placed on researching computer based training and the development of Interactive Video Information Systems (IVIS); suitable courseware packages will be researched, developed and piloted.

Particular attention will be given to researching and setting improved standards of competence, and implementing effective quality assurance in respect of all training provided and sponsored by AnCO. Assessments of new technology, for example the implications of the microprocessor for small businesses, will be carried out and future strategies on testing and certification established which will conform with the EEC Resolution of 11 July 1983 on the development of a policy on certification.

NATIONAL TRAINING RESEARCH AND DEVELOPMENT ORGANIZATIONS

WORKING

MEETING

20-21 MAY 1985

VOCATIONAL TRAINING OF ADULTS BY THE OFFICE NATIONAL DE L'EMPLOI (ONEM - FRENCH COMMUNITY) BELGIUM

C E D E F O P
BERLIN

Vocational training of adults by the Office National de l'Emploi (ONEM - French Community)

The Office National de l'Emploi (ONEM) was created in 1963. It succeeded the ONPC (Office Naticnal de Placement et de Chômage) which, at the end of the second world war, inherited a number of unemployment insurance funds.

Under the ONPC, vocational training centres had already been created in order to help the unemployed to undergo an apprentiship for a trade. This had its limits both with regard to quantity and quality (transition from improvisation to a certain degree of "skill" in above all construction trades - raw building or finishing).

In 1960 to 1963 the centres for the unemployed were opened to workers in enterprises. A period of high economic activity had begun. The firms were lacking skilled labour. The less qualified were sent to training centres, which were not schools, where the trainers (none of the trade) give them initial qualifications in a short period (accelerated training) which they could subsequently develop "on-the-job" (this was the period of full employment). The adult trainees had to be given time off in lieu enough to make them forget their loss of salary. The trainers were given preparatory instruction in "demonstration methods" in a special training centre (Centre National de Formation et d'Etudes Pédagogiques - CNFEP) utilizing the courses of pictures from AFPA (France) which, at this time, was more advanced in this field.

There was an increase in the number of trades for which instruction was given. Between 1963 and 1968, the ONEM centres provided instruction for approx. 65% employees and 35% unemployed, the latter having very poor qualifications. Between 1968 and 1970, youth unemployment increased despite the high level of economic activity and full employment. Above all unemployment affected women, young people and school-leavers. It was claimed that

"school curricula did not meet the needs of the enterprises for qualifications".

ONEM created training and guidance centres for young people and women, and in 1970 polyvalent training centres for tertiary occupations. In these centres the proportion of former workers-unemployed was reversed, only a minority (30%) of the trainees being sent by the enterprises.

Year for year, stimulated by the crisis, the young people were made more and more subject to education measures and legislation directed against unemployment. ONEM was induced to multiply activities not directly linked with the labour market but offering preparation for the same : contact centres, guidance and observation centres, pre-training centres, basic training centres (elementary training), remedial training centres...

At the same time, always bearing in mind the principle of a link with employment, the basic training centres catered for a clientele with a higher educational level (the extension of compulsory schooling up to 18) who, in order to enter the occupational framework described by the enterprises, demanded more intensive, more rapid continuing training, including training related to new technologies.

In the development of the roles of the adult vocational training system of ONEM in the research field, there is one aspect which has been adapted to the institutional changes : the role of co-ordinating the activities of the various economic partners.

This is facilitated by the administrative structure of ONEM which provides for joint representation and in which the employers' organizations, the unions and the representative of national, regional and local authorities meet on a permanent basis.

The regional round-table conferences provide without doubt the best environment for the exchange of information concerning vocational training problems in Belgium. This information extends

from the objectives to be achieved (the demands to be met) to the means of implementation and, above all, the quality of the results obtained.

A. At enterprise level : this is traditionally the least transparent area concerning the size of the budget and the profitability of business activities. Within the framework of agreements concluded between ONEM and the majority of the larger enterprises, it is possible to evaluate a certain number of parameters relating to activities conducted on a joint basis either with the financial aid of the regions or local communities, or with the aid of ONEM trainers who themselves undertake the development of programmes and hold training courses, or with the assistance of trainers of enterprises who are assisted in their task of selecting trainees and evaluating final results.

   More recently, the small and medium enterprises have been affected by this activity although in a different way. However, there is the same possibility for interaction between the training needs experienced and the solutions offered.

   Within the manual trades (construction, metal working, transport...) there exist long standing contacts. Over the last 15 years they have extended to cover the service sector and the administration and management of enterprises. Furthermore, agreements with the majority of computer manufacturers and the producers of software have enabled ONEM to keep up-to-date on the situation on the labour market as regards jobs in the new information technology sector.

B. At union level : the contacts with enterprises often result in an elitist approach and training activities tend to reinforce qualification levels with the risk of abandoning the more and more important fringe group of workers unable to keep pace with the winning group.

This is particularly true of young people leaving school who have difficulty in finding an initial job, even with the support of special measures (ONEM traineeships, CST, CMT....).

Here we also find the well known groups : women, the handicapped, immigrants. A certain number of special social or socio-vocational activities have been developed or supported by ONEM since 1968. It may be considered that all these activities stimulated by the unions find their point of origin in the Administrative Board of ONEM, establishing a counterpart to the efforts made to improve the qualification of workers in enterprises.

C. At governmental level : before the process of decentralization was initiated, ONEM was responsible to a single Minister for Employment and Labour. At present, in a plenary session (the francophone and dutch speaking groups of the Administrative Board meeting separately), the Administrative Board may include up to 7 representatives of different Ministries or Secretaries of State (one national, three regional, three local government).

Accordingly, at present (and for who knows how long to come) the Administrative Board remains the only meeting point for those bodies responsible, directly or indirectly, for vocational policies. The latter develop differently in the north and south of the country although the general framework remains fundamentally the same. Nevertheless, it is probable that a number of "placement and vocational training offices" will be created and the Administrative Boards will be requested to harmonize a number of aspects in order to reply to the needs of an economic entity which does not stop at linguistic or national frontiers, and to the needs of a European labour market.

D. At sub-regional employment committee level : these operate at sub-regional level and reflect the socio-political configuration of the Administrative Board in that they unite the representatives of the employers, unions and governments in order to evaluate vocational training needs of the sub-regions(there are 12 in Wallonia and 1 in Brussels) and to define the priority areas for which solutions are to be found. Paradoxically, on the francophone side, the opinions of these Committees concerning vocational training are essentially influenced (if not governed) by the representatives of the education networks who in the function of experts are members of the "education-employment Committees".

This influence of the education system on vocational training is reflected in the recent creation of a "national council of francophone trainers" (9 representatives of the education system, 2 from ONEM and 2 from the "middle class" industries).

The regional "socio-pedagogic Committees" may be placed alongside the "sub-regional employment Committee" and reflect the same tendencies (the two representatives of ONEM being the employers' and union representatives". Accordingly, on the francophone sector this would seem to predict a development in which the education system, having been totally decentralized, will take on responsibility for "the vocational training of adults" itself, tying it to the yoke of traditional scholastic administration. It is not possible to forecast the development of a system of administration through joint representation or how those parties benefiting from vocational training, i.e. the enterprises and the workers, can come together within this new organization.

CONCLUSIONS

At present, disregarding teacher organization developments, vocational training research in the francophone sector will be focussed on the following general areas :

1. The identification of the needs of the "trades" with regard to qualifications required on the labour market (re-definition of occupational profiles in the tertiary sector and in the construction sector).

2. Methodology research through pilot projects (new technologies, retraining units, training of "creators of enterprises").

3. The introduction of informatics in classical training programmes relating to business administration and management.

4. Development of televised courses as an element of distance training (introduction to information technologies, courses in Dutch, information courses for manual workers) using RTBF and cable television.

5. The revision of basic training objectives linked with the prolongation of compulsory schooling (to 18). Experiments in alternance training.

Pol DEBATY,
Technical Counsellor ONEM.

NATIONAL TRAINING RESEARCH AND DEVELOPMENT ORGANIZATIONS

WORKING
MEETING
20-21 MAY 1985

THE NATIONAL MANPOWER SERVICE - RVA
(FLEMISH-SPEAKING COMMUNITY)

B E L G I U M

C E D E F O P
BERLIN

THE NATIONAL MANPOWER SERVICE

1. Background

The National Manpower Service (Rijksdienst voor Arbeidsvoorziening, RVA) has existed as an official body since 28 December 1944. Its four principal fields of activity are to provide a link between the two sides of the labour market, to operate training schemes aimed at narrowing the gap between the demands of the labour market and the skills of those seeking work, to give firms financial assistance with employment-creating activities and to undertake administration relating to unemployment, including the provision of unemployment benefit. It is also responsible for managing Belgium's "absorption programmes", special statutory schemes aimed at alleviating the problem of high unemployment, particularly among the young, and at facilitating the transition from school to work.

These programmes comprise: (1) the Special Temporary Framework (BTK), designed to provide work for those seeking employment in non-profit organizations seeking to set up specific projects of public utility; (2) the Third Labour Circuit (Derde Arbeidscircuit), which has broadly the same objectives but is designed for the long-term unemployed; (3) the work experience system, under which firms are required to take on temporary staff (in numbers equivalent to a set percentage of their total workforce) who are aged under thirty and have little or no experience of work; (4) a job-creation scheme, aimed at small and medium-sized enterprises, which encourages them to take on staff (with wage subsidies) in the areas of innovation, export and

applications (energy and raw materials); and (5) the bridging pension, which ensures a smooth transition from employment to retirement.

Innovations within the RVA organization include the computerization of placement services, the T-service agencies and the listing and publication of job vacancies.

With regard to the computerization of placement services, the SIROCCO system is used in the French Community and the SIMONA system in the Flemish Community. The first of these originated in Liege and is now being extended, while the second began in Vilvoorde and is now in use throughout the Flemish Community. The basis of the systems comprises three data files, one for persons seeking work, one for offers of employment and one for firms. In the Flemish Community this is associated with a profiling system organized by the vocational training centres and designed to feed into the files of those seeking work up-to-date information on, among other things, their particular skills. This information also provides a basis for decisions on possible training courses.

The T-service comprises temporary employment agencies established in certain areas by the RVA itself: they have the same status as private employment agencies and thus function as the employer of those registered with them as available for temporary work.

Finally, the RVA has expanded its recruitment area by advertising certain types of vacancy nationally and

internationally: a national list of vacancies is drawn up daily and sent to all employment offices and use is made both of the national media (e.g. the "Monsieur Emploi" service run by the French-speaking broadcasting organization RTBF from Mons) and of the European SEDOC system.

Reforms are also underway in the area of unemployment insurance, notably in the direction of the simplification of regulations and the computerization of functions (now being studied).

2. THE RVA AND VOCATIONAL TRAINING

2.1. Background

The RVA's vocational training scheme, which dates back to 1945, has always had two objectives: on the one hand to meet industry's needs for trained manpower and on the other to supply those seeking work with the knowledge and skills they need to obtain employment .

In the period 1945-61 the training facilities were reserved for unemployed people in receipt of benefit and concentrated mainly on occupations in the construction, metal-working, wood-working and clothing industries and, to a lesser extent, in the hotel and catering industry and the service sector.

Although the Decree of 26 April 1945 regulating the training of the unemployed was amended on a number of occasions, it was not until the introduction of the Decrees of 24 March 1961 that the RVA was enabled considerably to expand its

activities in the area of vocational training. Training facilities were made available to those still in employment, grants were provided for firms undertaking the training of their own employees and financial assistance was given with the costs involved in the selection, training and induction of new employees with a view to the establishment or expansion of enterprises or a change-over to new methods or products. These new arrangements signified a major step towards a genuine employment promotion policy.

The Royal Decree of 20 December 1963 concerning unemployment and manpower services, and the subsequent decrees implementing it, continued to regulate vocational training throughout the country until the appearance of the Decree of the Flemish Executive of 14 July 1982, which introduced new arrangements for participants in vocational training in the Flemish Community.

2.2. Vocational training and institutional reform in Belgium

The Institutional Reform Act of 8 August 1980 laid down that vocational retraining and refresher training were cultural matters in respect of which the Executives of the two Communities - the French Community and the Flemish Community - had authority.

In addition to the diversity which results from regional variation in the needs of the labour market, vocational training activities are now also characterized by a variety of initiatives whose origin lies in the policy

decisions taken by the Executives of the Communities and and adopted as specific objectives for the vocational training provided by the RVA. It must nevertheless be emphasized that the principal objectives of vocational training remain identical over the whole country, namely to provide employees and those seeking work with the skills they need to retain or find employment and to provide industry with the skilled manpower it needs.

3. THE RVA AND RESEARCH AND DEVELOPMENT

While no pure research is carried out under the auspices of the RVA, work is being done on a number of development projects, summarized below. The general framework within which each development initiative must take place is set by the Executives of the Communities in Belgium (the French-speaking, the Flemish and the German-speaking).

3.1. The Flemish Community

The main elements of policy adopted by the Executive of the Flemish Community are these:

(a) absolute priority for training courses directly geared to meeting actual labour-market needs;

(b) second priority to future-oriented courses likely to improve participants' employment prospects in connection with the introduction or development of new technologies;

(c) the development of cooperative links with other training institutions and with firms, aimed at a rational expansion of training opportunities;

(d) a thorough and ongoing evaluation of the training provided, with a view to ensuring rapid adaptation to

meet evolving needs.

3.2.1. Concrete measures

The general policy decisions necessitated the following concrete measures:

(a) a long-term planning system to optimize the use of capital equipment;

(b) job-directed training, achieved by centralizing complementary training packages within each occupational sector;

(c) a response to new needs and new technologies, without neglecting basic forms of training;

(d) the introduction of a profiling system for those seeking work;

(e) the reinforcement of the motivation and basic skills of those whose position on the labour market is most vulnerable.

More concretely still, the following steps were taken:

(a) easily accessible specialized centres were set up;

(b) traditional training courses were regrouped with a view to making qualifications more flexible;

(c) collaboration was undertaken with other training institutions to facilitate the full use of the infra-structure and the exchange of teachers;

(d) modular and differentiated programmes were introduced;

(e) new efforts were made in the area of trainer training.

3.2.2. Centres for new technologies

Given the need for first-class courses, whether at the

basic ("demystification") or the advanced level, and the importance of the training material, special investments were made to bring together the necessary materials in one place and to ensure that decent training could be given in particular branches of new technology. For example, the robotics centre, established at Vilvoorde (near the capital), is designed to give trainees contact with expensive but indispensable equipment which the RVA would have been unable to purchase were robotics courses provided everywhere up to the level possible at Vilvoorde.

Where the investment needed is less heavy - as for example in the case of office automation - activities may be spread over several centres, but here too the core idea (almost elevated to the status of a principle, particularly in the Dutch-speaking part of the country) is that participants should be concentrated in centres where training efforts are specifically directed and maximum resources are available.

Specific centres exist for the following specialist fields: robotics, Cad/Cam, office automation, new heating technologies, textiles and electronics. A realistic forecast indicates that in 1985 over 40% of participants will be trained in the centres for new technologies.

3.2.3. Innovation in other areas

To complete the picture mention must be made of the other areas in which the RVA is making or seeking to make innovations. These include:

(a) more thorough-going individualization of the basic courses in the tertiary sector (involving organizational changes and the division of functions, testing the application of the principles of adult education and programming techniques);
(b) diversification of advanced management courses, with new courses in financial and commercial management and the use of computers, generally organized in collaboration with external bodies;
(d) training courses for the less skilled through specific programmes;
(e) forms of alternance training;
(f) concentration on the formation of attitudes and preparation for applications, interviews etc., with specific programmes in this area in the training centres for shop assistants etc. involving the use of videos;
(g) specific efforts in the area of the training of trainers in the secondary sector, focusing among other things on teaching organization, the production of teaching materials, self-teaching methods in electronics and interaction analysis.

PRINCIPAL AREAS OF DEVELOPMENT IN THE RVA DIRECTORATE FOR VOCATIONAL TRAINING - FLEMISH COMMUNITY

1. Introduction

As requested in Mr McDermont's letter, there now follows a concrete description of certain areas now being specially developed in order to keep pace with the evolution of new technologies.

2. Descriptions

2.1. Electronics and automation

The Centre for Applied Electronics and Automation in Antwerp is already in full operation. A start has also been made on an ambitious automation project, in which a number of leading firms are cooperating and which involves not only electronics but also a range of other disciplines such as pneumatics, hydraulics and electrical engineering. The Centre's range is illustrated by these items from its programme: power electronics; programmable control systems; analogue and digital electronics; microprocessors; monitoring systems. A firm foundation has already been laid for the expansion of the centre with modules for: software for microprocessors; systems research: and breakdown analysis. A plan exists to bring all these courses together under the common heading of automation. Automation techniques can be studied in five centres, with different areas of application: Antwerp (process automation); Vilvoorde (robotics); and Ghent, Bruges and Hasselt, in respect of which decisions have yet to be reached.

2.2. Energy management and new heating techniques
At Mechelen a broad basis has been laid, in the area of low-temperature heating systems using sophisticated monitoring and control techniques and alternative energy sources, for the further specialization of this centre in the field of energy management systems using microprocessors and computers.

Evening courses are being arranged aimed principally at people working in the energy sector, with specialist teachers from leading firms who are able to respond immediately to energy management problems brought to their attention by participants.

In collaboration with VZW CEDICOL, a non-profit body which is a recognized centre for the issue of the "certificate of qualification for heating-oil burner technicians", courses have been organized to enable participants in Mechelen centre courses to obtain this certificate after a seven-day course of training.

The Mechelen centre has contacted the Ministry of Employment with a view to recognition as a centre for the issue of this certificate.

A second project has been initiated with a view to organizing, in cooperation with the Nuclear Energy Study Centre at Mol, high-level courses in energy management at the Mol centre, paralleling a similar course in energy management with microprocessors at the Mechelen centre.

Considerable attention will also be devoted to heat recovery systems, air conditioning, electric heating and steam installations and their specific problems.

In the future the centre may also carry out research into systems which will enable RVA centres to operate in an energy-saving fashion.

2.3. Textile Centre

This centre is concerned with various occupations in the textile industry, focusing on the application of the latest technology in this industry. The training packages provided are: weaving and control technology (with option for a "textile lab"); the maintenance of textile machinery; dyeing and improving; familiarization with the use of information technology in the textile industry (computers, software, peripherals and applications).

Many of these projects have been initiated with the help of textile firms, the Training Centre for the Textile and Knitted Goods Industry (COBOT), the Belgian Textile Industry Federation (FEBELTEX) and the Textile Employers Federation for the Kortrijk area. A working group set up under the auspices of the Subregional Employment Committee (STC) gave valuable advice in connection with the establishment of this centre.

2.4. CAD/CAM

These centres, established within the Subregional Employment Services (STDs) for Hasselt and Bruges have

attracted many students, with the basic familiarization courses in particularly scoring a great success. CAD/CAM courses for beginners were organized in collaboration with the Kempen Higher Institute: these too met the highest expectations. In the course of the year CAD/CAM courses for beginners will be set up in both Bruges and Hasselt, with training being given in the following fields: mechanical constructions (piping and steel constructions); mechanics and mechanical engineering; numerical control systems. Projects are planned, in collaboration with specialized bodies, for CAD/CAM training courses (finite elements) and CAD/CAM applications in the area of vacuum moulding.

2.5. Robotics

The courses in robotics and flexible manufacturing systems have been a general success; both are to be repeated in early 1985, with external teachers, with three sessions on robotics and two on flexible manufacturing systems.

Discussions with specialists are already underway with a view to organizing two new courses next year on safety in relation to flexible automation systems and the simulation of flexible manufacturing systems.

The RVA is collaborating with the Flemish Organization for Robotics and Automation (FLORA) on the centre's technical facilities. Stand-alone robots may be installed for a basic course in programming and

maintenance and the creation of three FMS units in the areas of handling, assembly and mechanical processing.

The Vilvoorde centre, which is unique not only in Flanders but in Europe, will be launched under the name Flanders Automation and Robot Centre (FLARC).

2.6. Microelectronics

The centre for microelectronics associated with the Oudenaarde Subregional Employment Service will concentrate on the design of integrated circuits to meet specific requirements and the design of microprocessor-controlled systems. The latter can be seen as a follow-up to the courses in electronics being provided in other centres. The course comprises the following modules: integrated circuit design; specialized digital techniques; microprocessor hardware and software; interface techniques; and design techniques for systems realization. It is expected that some 200 participants will follow this course next year.

This centre will work closely with the centre for applications of CAD/CAM in clothing manufacture in the area of control and management systems, and with the centre for internal transport and automatic warehouse management in the area of control systems. These two centres, also established in Oudenaarde, offer the following courses:

(a) CAD/CAM in clothing manufacture:
- CAD grading
- CAM production management;

(b) internal transport and automatic warehouse management:
- training of internal transport managers
- warehouse systems, stock control, installation and packaging systems;
- internal transport safety systems.

These centres will become operational in the course of 1985.

2.7. Office automation

As part of the programme for the expansion of training in the tertiary sector to cover new technologies the process of establishing the office automation centres was begun in 1984. The courses are being concentrated in Kortrijk, Dendermonde, Leuven and Hasselt.

These centres concentrate entirely on automation and the use of computers in the office and other service sectors; the courses are designed to meet the needs of both those in work and the unemployed in relation to information technology.

In order the meet their objective the centres were provided with the necessary equipment, i.e. word processors and computer terminals linked to mainframe or micro computers, and staff were appointed or trained as required.

In the first stage training will be available for:
- secretarial staff (in the field of word processing);
- accountancy staff (in the field of computerized

book-keeping);
- computer users (in the area of software, including spreadsheet programmes).

The courses in Kortrijk and Dendermonde started up towards the end of 1984; activities will be intensified and expanded in the course of 1985 with a view to making the fullest use of the infrastructure. The Hasselt and Louvain centres will also become operational in 1985.

A start is also to be made on the second phase of the projects, namely the development of the "fictional firm" in which the computerized activities can be integrated, thus permitting other target groups to enter training.

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NATIONAL TRAINING RESEARCH AND DEVELOPMENT ORGANIZATIONS

WORKING
MEETING

20-21 MAY 1985

INTRODUCTION TO PCBB AND ITS ACTIVITIES

THE NETHERLANDS

C E D E F O P
BERLIN

The P.C.B.B. and its activities

The Pedagogical Centre for vocational training for industry and commerce has concerned itself from its establishment in 1969 with education innovation, development and support of vocational training in the Netherlands. The PCBB was originally established with the objective of supporting vocational training within the framework of the training system. Later on other forms of vocational training were added, for example the development of the short MBO that is middle vocational education, in-service training in the public health service, and training of the State Police. The Centre is governed by organizations which are responsible for the development and implementation of good vocational training, and through central organizations of employees and employers, in the name of industry. The PCBB is subsidized by the government.

Under the title Vocational Training the PCBB means the phase of vocational training, in which the participants mix practical and thoretical work. It is the conviction of the PCBB that a vocation can only really be learned in the practice of that vocation. Vocational training differs from other education, because one speaks of practical learning as well as theory learning. This means that this training cannot take place only within an educational institution, but that the participants learn the vocational activities in practice. The PCBB speaks of a dual form of education within which younger and older well known vocational qualifications can be obtained, which have social recognition.

The vocational training can also be followed with the intention to further specialization, which might consist of further training or retraining. It, therefore, consists not only of initial training. The PCBB sees the training system as still being a most central field of activity. Within the system the PCBB

considers the connection between vocational training and vocational practice best guaranteed.

Development and support projects are in general carried out in close co-operation with the field of work. The PCBB support activities are carried out in the expectation that the results will provide models and/or have applicability over the whole field or for a part thereof.

The PCBB shall as a development and service institute for vocational training provide support activities for :

- making inventories of the vocational needs in the business sectors;
- the determination of qualification requirement in the form of end results;
- the development of training programmes with the help of practice log-books, text books, programme units and other teaching aids;
- the structuring of training;
- the development of examining and finishing procedures;
- the evaluation and adjustment of the training and the promotion of social recognition;
- the development of participant counselling;
- the development of information techniques;
- the promotion of the expertise of the staff of the various institutes (practical trainers, lecturers, consultants, etc.,);
- the evaluation of the functioning of these institutes for vocational training;
- carrying out evaluation and other research work within the framework of the development projects;
- giving shape to new or changed organization forms;
- the carrying out of implementation activities.

To meet the needs of these areas the PCBB carries out studies and research, translates the results of this work to the field of vocational training and supports this field by processing the results in the form of aid to the development of new training or the improvement of existing training.

Within the PCBB project related work is central. The greater part of the development activities are approached thematically in a project plan and carried out systematically along the line laid down in the plan.

NATIONAL TRAINING RESEARCH AND DEVELOPMENT ORGANIZATIONS

WORKING

MEETING

20-21 MAY 1985

RESEARCH PROJECT "TEACHING AND LEARNING"

UTRECHT UNIVERSITY

NETHERLANDS

C E D E F O P
BERLIN

DEPARTMENT OF EDUCATION AND EDUCATIONAL RESEARCH
STATE UNIVERSITY UTRECHT
HEIDELBERGLAAN 1
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DR. G. KANSELAAR

Research project "Teaching and Learning"

1 Aim and purpose of the research project "Teaching and Learning"

Research within the project "Teaching and Learning" is directed at the basic level of formal education. On this level the learning process takes place, in direct interaction between pupils, teacher and/or educational content. The teaching-learning situation is meant to start, structure and monitor the learning process within the pupil. So, within classroom education, learning experiences are being organized and systematized. Therefore, the specific object of study of the research project is the actual teaching-learning situation, its structures, functions and processes.

The central question of the research project is: In what way might the learning process in the actual teaching-learning situation be influenced. The final goal is to acquire systematized, differentiated and detailed knowledge of the learning process. Such knowledge should provide both teacher and pupil with a rational basis on which behavior in educational settings could be founded. And furthermore this kind of knowledge should form a rational basis for designing the specific teaching-learning situation. In short, this means the articulation of founding and clarifying statements on which the development of teaching strategies, aids and tools, materials and instruments should be based.

Consequently, the knowledge to be gathered will be judged according to two criteria:

1) How fundamental is this knowledge in view of the development of a theoretical framework?
2) How useful is this knowledge in terms of specific actions to be undertaken within the learning situation?

Since the learning situation is our main point of focus, detailed knowledge of the learning process is necessary. To be able to answer questions about possible ways to influence the learning process, one needs ideas, models and theories about the exact nature of the learning process. Therefore, the acquisition of knowledge about the learning processes and about ways to influence these processes is most central to the project.

The general research question of the project may be phrased as follows:

> What is the nature of learning processes within well defined teaching-learning situations, what factors influence these processes, and in what way could knowledge, collected about

these processes be used to optimalize these teaching-learning situations.

2 Problem areas

According to the general focus of the reserch project, two components are to be distinguished:
1)The cognitive functioning of the pupil;
2) The didactical design of the learning process.
This distinction in problem areas does not imply an isolation of these areas in terms of study. The interaction between teaching and learning as expressed in the concept 'teaching-learning situation' (in Dutch terminology: 'onderwijsleersituatie') will be kept in focus constantly. Both areas of concern will now be sketched briefly.

2.1 The cognitive functioning of the pupil

Learning may be conceived of as a process of information-processing and knowledge acquisition by the pupil. Central to the teaching-learning situation is intentional learning. Intentional learning means that the pupil is aware of the cognitive activities he is engaged in, and that the pupil consciously plans activities ('takes action') to start and monitor the learning process. Besides intentional learning, one may suppose moments of more or less intentional learning.

Research within this area is concerned with the course of learning processes in well defined teaching-learning situations, as well as with the cognitive activities of pupils and the factors that effect the learning process. These factors are individual characteristics of pupils, such as knowledge, skill, motivation, 'style', etc. This kind of research is both descriptive and prescriptive. Descriptive in that data describing the cognitive functioning of pupils will be gathered and organized. Prescriptive by suggesting and evaluating measures aimed at enhancing the level of cognitive functioning (learning to learn, learning to think, learning to solve problems, as educational goals of high priority).

2.2 Didactical design of the teaching-learning process

Didactical design of the teaching-learning process encompasses didactical activities of the teacher, as well as designing and developing teaching aids and learning materials.

The activities of the teacher are aimed at distinctive aspects of the design of the teaching-learning process: selection of goals, structuring and sequencing subject matter, methodical design, evaluation and diagnosis of the learning process and product. Teaching and learning materials comprise curricula - particularly in terms of methods and courses - as well as media, including audio-visual materials and computers.

Within this area, the nature of the research is again both descriptive and prescriptive. Descriptive by providing a systematic description of the actual behavior of the teacher and the influence of specific materials on the learning process, prescriptive by developing suggestions for activities the teacher should engage in and by developing criteria for the design and

applicability of teaching and learning materials.

3 Research issues

In order to plan the research, it will be necessary to confine the field of research. The program will be specifically centered around four themes of interest for the next years to come. Within these themes it will be possible to study aspects of both problem areas.

This choice of themes of interest is founded on the following considerations:

1) traditions of research that do exist within the departments of educational sciences at State University in Utrecht.
2) the current state of the art in theory construction, which might form a basis for further inquiries concerning teaching-learning processes;
3) current expertise and interests of participants within the research project;
4) actual problems as they are experienced within the field of formal education.

These four themes will now be presented.

3.1 Education and new information technology

Information technology is being used in different ways in educational settings:

1) instruction about computers and computer applications; in secondary education this kind of instruction takes the form of computer literacy ('burger-informatica') and in vocational education it takes the form of computer science, etc.;
2) instruction in which the computer is a tool in the teaching-learning process; 'computer assisted instruction' (C.A.I.) represents the more traditional form, whereas nowadays knowledge based systems are being developed; the possibilities to individualize the presentation, sequencing, feedback, speed and data storage are especially emphasized here;
3) the computer as an aid in school administration;
4) the computer as an aid in on line research on learning processes.

The research in the project 'Teaching and Learning' concerning education and new information technology has two main points of focus:

1) the influence of information technology on vocational education;
2) the construction and evaluation of courseware.

3.2 Individual differences and differentiation

Until recently, in research investigating relations between interindividual differences and didactical measures to be taken, characteristics of pupils were predominantly viewed as general, relatively stable personality dispositions. These dispositions were considered to be highly consistent over varying situations. This forms one of the major reasons for the fact that the 'Aptitude Treatment Interaction' approach has failed to provide clearcut instructions for adjusting the learning environment to individual differences.

We conceive of student characteristics as dynamic and idiosyncratic ways in which information is encoded, transformed and actualized. In courses that are being constructed, ways to develop information processing strategies should be specified. Furthermore, the student should learn to manipulate the learning environment as to adjust this environment to his or her current state of knowledge. This active control of the learning environment could be viewed as an alternative to adjusting the instruction to the characteristics of the student.

3.3 Social interactions in educational settings

Studies investigating the influence of interaction between children and/or pupils on learning and social and motivational development are undertaken from within several different disciplines. These studies could be ordered in terms of different themes. Within the research project "Teaching and Learning", this type of investigation is confined to the conditions that contribute to the effectiveness of learning in pupil-pupil interaction in small groups, and to the communication processes that take place in this interaction.

Certain conditions have to be met, when learning in social interaction is to take place. These conditions concern the characteristics of pupils, the group to which they belong, the type of task, the nature and direction of the evaluation and the required level of performance. Working in groups takes place within a specific context. This context, including the position of the teacher, is considered to be one of these conditions.

The investigation of the conditions under which social interactions in formal education take place is becoming more and more a matter of interdisciplinary effort. But still the monodisciplinary approach dominates the field and this determines the specific research questions, methods, settings, populations and intended results.

The major task for the research suggested in this project is twofold. First, the development of a conceptual, theoretical framework that encompasses the different findings of research done until now. From this framework, guidelines for new investigations could be deducted. Second, the elaboration of the position in calling for an interdisciplinary approach when studying social interaction, and the development of (methodical) conditions that have to be met by such research.

3.4 Content areas

The nature and structure of content areas is considered more and more important to processes of learning and teaching. Therefore, studying subject-specific learning and teaching processes seems to be indicated.

Content areas may be classified in many ways. A primary classification is to distinguish knowledge-directed content and skill-directed content. Acquisition of knowledge is central to subjects such as history, biology, geography and physics. Skills, particularly the application of rules and problem solving strategies, play a major part in developing initial proficiency in reading, in arithmetic/mathematics, spelling and use of grammar.

Research within the field of specific subject areas is predominantly concerned with processes of knowledge acquisition, notably when studying texts and with processes of problem solving within the domain of initial arithmetic. Research on processes of language production is in preparation.

4 Problem areas and theme's in mutual perspective

It should be clear that since the research within this project is foremost concerned with actual, well defined teaching-learning situations, the problem areas and theme's are merely considered as emphases, focus points for studying a certain teaching-learning situation.
Therefore, an exclusive classification of research in problem area and/or in theme's is not always feasible. For instance, the close relationship between new information technology and individual differences and differentiation is easily conceivable: One of the possible applications of the computer in formal education is exactly the individualization of the teaching-learning processes. And, for instance, studying individual differences in information processing is necessarily linked to a specific subject area.

5 Social significance of the research

One of the conditions that has to be satisfied by research within this project is educational relevance, as stated in the general research question. The choice of theme's of research and it's justifications reflects this concern with social significance: problems as they are experienced in educational settings are becoming objects of research. For instance, individualization and differentiation forms a first order educational problem that is closely related to developments like the implementation of the 'new' elementary school, plans concerning the first years of secondary schooling and policy regarding children with learning difficulties within ordinary schools.
The implementation of the new information technologies within our society, including formal education, has high social priority for the next few years. The interest in cooperative learning represents among others the changing view on the structure of the teaching-learning situation.

6 Description of specific investigations

Project 1 : Vocational education and new information technologies
Theme : Education and information technology
Supervisor : Dr. G. Kanselaar
Grant : Ministry of Education
Period : 15-11-83 till 1-11-85

Project 2 : Policy and educational research concerning new technologies, within the common market (EEG)

Theme : Education and information technology
Supervisor : Dr. G. Kanselaar
Grant : Ministry of Economics
Period : 1-11-84 till 1-2-85

Project 3 : Conditions for the effective use of courseware
Problem area : Didactical design of the learning process
Theme : Education and information technology
Supervisor : Dr. G. Kanselaar
Grant : S.V.O. number 1086
Period : 1-9-83 till 1-9-85

Project 4 : Courseware and authoring languages
Problem area : Didactical design of the learning process
Theme : Education and information technology
Supervisor : Dr. G. Kanselaar
Grant : S.V.O.
Period : 1-9-84 till 1-9-85

Project 5 : Courseware in schools
Problem area : Didactical design of the learning process
Theme : Education and information technology
Supervisor : Dr. G. Kanselaar
Grant : S.V.O.
Period : 1-9-84 till 1-9-85

Project 6 : Incorporation of computers in (existing) curiculae
Problem area : Cognitive functioning of the pupil
Didactical design of the learning process
Theme : Education and information technology
Content area: arithmetic
Supervisors : Drs. W.A.M. Kok, Dr. G. Kanselaar
Grant : S.V.O., number 1100
Period : 1-5-84 till 31-12-85

Project 7 : Processes in solving open sentences (missing addend and missing minuend problems)
Problem area : Cognitive functioning of the pupil
Theme : Education and information technology
Content area: arithmetic
Supervisors : Drs. W.A.M. Kok, Dr. G. Kanselaar
Grant : S.V.O.
Period : 1-9-84 till 1-9-85

Project 8 : Computer assisted instruction for teaching children with learning difficulties
Problem area : Cognitive functioning of the pupil
Didactical design of the learning process

Theme : Individual differences and differentiation
Education and information technology
Supervisor : Prof. Dr. L. Stevens, Drs. A. Pennings
Grant : S.V.O., number 310.4192
Period : 1-2-85 till 1-2-87

Project 9 : The analysis of dialogues in interactive problem solving
Problem area : Cognitive functioning of the pupil
Theme : Education and information technology
Supervisors : Dr. G. Kanselaar, Dr. J. v.d. Linden
Grant : S.V.O. number 203.4237
Period : 1-2-85 till 1-2-87 (1-2-89)

Project 10 : PION: Project Information Technology and Education
Problem area : Didactical design of the learning process
Theme : Education and information technology
Content area: Arithmetic
Supervisor : Dr. G. Kanselaar
Grant : RUU
Period : 1-2-84 till 1-2-85

Project 11 : Study skills in elementary school
Problem area : Cognitive functioning of the pupil
Didactical design of the learning process
Theme : Content areas: verbal information, text processing
Supervisors : Drs. W.A.M. Kok, Drs. J.H. Boonman
Grant : SVO, number 0512
Period : 1-5-80 till 31-12-84

Project 12 : Creativity in elementary school
Problem area : Cognitive functioning of the pupil
Didactical design of the learning process
Theme's : Content area's : learning problem solving
Supervisors : Drs. J.H. Boonman, Drs. A. Pennings,
Grant : S.V.O. number BS 565
Period : 1-1-81 till 1-7-82
1-2-84 till 1-2-85

Project 13 : The Gross Formboard
Problem area : Cognitive funtioning of the pupil
Theme : Individual differences and differentiation
Supervisor : Prof. Dr. P. Span, Drs. A.Pennings
Grant : RUU

Project 14 : Identification and instruction of gifted children in secondary education.

Problem area : Didactical design of the learning process
Theme : Individual differences and differentiation
Supervisor : Prof. Dr. P. Span
Grant : S.V.O. number 1096
Period : 1-11-83 till 1-3-85

Project 15 : Information processing by gifted children
Problem area : Cognitive functioning of the pupil
Theme : Individual differences and differentiation
Supervisor : Prof. Dr. P. Span
Grant : S.V.O.
Period : 1-9-84 till 1-9-85

Project 16 : Individualization and differentiation in elementary schools
Problem area : Didactical design of the learning process
Theme : Individual differences and differentiation
Supervisor : Prof. Dr. P. Span
Grant : S.V.O. number 301.4011
Period : 1-10-84 till 1-10-85

Project 17 : Identification and instruction of gifted children in secondary education (continuation)
Problem area's : Didactical design of the learning process
Theme's : Individual differences and differentiation
Social interactions in educational settings
Supervisor : Prof. Dr. P. Span
Grant : S.V.O. number 1096
Period : 1-3-85 till 1-11-86

Project 18 : Teaching in small groups
Problem area : Cognitive functioning of the pupil
Theme : Social interactions in educational settings
Content area: problem solving
Supervisor : Drs. W. van Dijk
Grant : Research pool RUU
Period : ... till 31-3-85

NATIONAL TRAINING RESEARCH AND DEVELOPMENT ORGANIZATIONS

WORKING

MEETING

20-21 May 1985

PROPOSALS FOR INTERNATIONAL CO-OPERATION OF TRAINING RESEARCH INSTITUTIONS FOR OBSERVATION OF CHANGES IN QUALIFICATIONS RESULTING FROM INTRODUCTION OF INFORMATION TECHNOLOGIES

B I B B

FEDERAL REPUBLIC OF GERMANY

C E D E F O P
BERLIN

Bundesinstitut für
Berufsbildung

Berlin/Bonn, April 3, 1985

Proposals for an international cooperation of vocational training research institutions for the observation of changes in qualifications resulting from the introduction of information technologies

1. The change in qualifications brought about by the introduction of new information technologies has not so far been adequately investigated. When analyzing qualification demands, consideration must be given to the existing or planned work organization.

2. The study of the change in qualifications should be conducted at the concrete level of occupations, as this is the only way in which guidelines for the planning of education and training methods and for political action can be obtained.

3. Individual research institutions are not in a position to carry out a comprehensive analysis of the effects of new technologies for all sectors. It is therefore recommended that typical examples be selected. A suitable procedure would appear to be

   - the use of "liaison firms" (firms of different sizes and in different sectors which would maintain regular contact with the research institution) for regular cross-sectional analysis and/or
   - the observation of developments in firms which are leaders in the technological sector (lead-lag analysis).

4. A prerequisite for an international comparative analysis of structure changes resulting from new technologies is

   - the employment, as far as possible, of a standard nomenclature for the subjects under study, and

- if possible, standard procedures (methods) for the collection of data.

5. On the basis of existing material, it should be possible short term to organize an initial meeting of experts to describe the change in qualifications.

6. The European Centre for the Development of Vocational Training should coordinate and take on the central functions of planning, implementation and analysis for such an international cooperation.

NATIONAL TRAINING RESEARCH AND DEVELOPMENT ORGANIZATIONS

WORKING

MEETING

20-21 May 1985

CEDEFOP ACTIVITIES IN RELATION TO NEW INFORMATION TECHNOLOGY AND VOCATIONAL TRAINING

Berlin

1985

CEDEFOP activities in relation to new information technologies and vocational training are given here in chronological order, showing a continuous involvement in this topic going back to 1980.

New technology now features as part of many other CEDEFOP projects where it is not the main part of the study, but where its influence is none-the-less becoming increasingly important.

The list of activities is presented as follows; with some outline indications for possible action during the 3 year perspective period 1986-1988.

A feature of the work on new technology from 1985 onwards is a planned joint FAST/CEDEFOP project, on which more information is given at the end of this paper.

CEDEFOP WORK ON NEW TECHNOLOGY TO DATE

1980 Microelectronics and informatics technology and its training implications

Literature survey and interviews

Technological development - Relationship job structures, qualifications, training

Co-ordination of national studies on new technologies and qualifications (CNC machines)

1981 Microelectronics and informatics technology and its training implications

Continuation of 1980 work

Interviews on introduction and management of new technology in Denmark, France, Netherlands : emphasis on Management/T.U. training

Co-ordination of national studies on new technologies - qualifications (CNC) leading to a seminar on new technologies - December 1981

1982 Microelectronics and informatics technology and its training implications

Preparation of a synthesis report and seminar in June 1982. Follow-up to 1981 work, providing a contribution to the November conference

Organization of a joint Commission/CEDEFOP conference on technological change, qualifications and training - November 1982

Curriculum changes in response to technological developments

Preparation of a seminar in May 1982

Applications of informatics in office work, implications for vocational training

Literature survey

1983 Contribution of enterprises to vocational training - also in relation to new technologies

Synthesis of research

Vocational training and flexible manufacturing systems

Organization of researchers meetings

Robotics - training implications

Documentary survey and organization of an experts' meeting on Robotics Developments and Future Applications in November 1983

New technology and vocational training

Organization of a New Technology Manufacturers' and Users' meeting in November 1983

1984 Continuation of previous work

- Training policy in enterprises
- Vocational training and flexible manufacturing systems
- Robotics
- New information technology and office employment
- Small and medium enterprises

Preparation of reports on

- Robotics developments and future applications (1)
- New technology manufacturers and users meeting

1985 Continuation and development of work on Technological development and qualifications

The Commission quite rightly shows great interest in establishing a system for monitoring and analysing changes in occupations and qualifications to ensure active cooperation between the Commission and the Member States.

(1) Published as a booklet in English; German text to follow

In order to achieve this; much more needs to be done to reduce the complexity of the problem and the extreme diversity of possible issues. CEDEFOP is participating in this work by initiating action via two parallel routes:

- via the training systems
- via the firms

The approach via the training systems

How can one experiment with new training paths which aim to enrich or modify the occupational profiles of those occupations where the job description has changed because of developments in equipment, manufacturing processes or the technical properties of the finished product?

Within this context, what initiatives have been taken to assist adults or young people with learning problems, in particular those without any education or training certificates, who find difficulty in gaining access to vocational retraining schemes?

The approach via the firms

Given the developments in robotics, office automation, teleprocessing, etc., efforts must be made to identify the areas of some standard sectors of activity where the question of new occupational profiles is arising before the training system has "acknowledged" them:

- Which occupations are affected?
- What options are available, given the choice of work organizations?

Is the socio-technical approach of management becoming more prevalent?

Do all the conditions exist for a dialogue between management andlabour on these problems?

What is the situation with regard to providing training for managers and directors of firms and representatives of the workforce so that they may have a better grasp of the socioeconomic issues which form the core of the debate?

CEDEFOP's contributions must take account of the intense effort being invested in research and experimentation in several Member States, of the intensification of direct dialogue between the Commission and the senior officials responsible for vocational training in the Member States, and of the development of the FAST programme.

The projects themselves are as follows:

New projects in 1985

2.405

Promotion of co-operation among research and development organizations (government-linked) engaged in the field of vocational training

It will now become a permanent task of CEDEFOP to organize meetings of national research and development organizations to exchange information and experience on current and future research work, with special emphasis on new technologies and changes in training qualifications, etc.

2.205

Changes in qualifications in response to technological advance

Much of the initial CEDEFOP work on new technology now comes within the scope of the project 2.205 "Changes in skill profiles and technological advance" which is being carried out in co-operation with the Commission FAST programme (1 TWE 7). This work is in support of the Commission need to establish a systematic 'observatoire' on changing qualification profiles in response to new technology.

"Without question, the most pressing management problem of the next decade will be the successful introduction and integration of technological change. Everyone in your plant will be involved in these innovations - from engineers to line workers "supervising" robots.
The critical task for management will be to introduce these changes in a manner which ensures their fullest use". Dr. F. PETROCK, President, General Systems Inc., Ann Arbor, Michigan, U.S.A., 1985.

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